Abbreviated Material Safety Data Sheets (MSDSs)

The abbreviated MSDSs provided for each compound listed in the following Table of Contents contain only the basic chemical, physical, and toxicological data needed to answer Pre-Lab questions and to prepare Tables of Reactants and Products for the experiments in "Experimental Organic Chemistry: A Miniscale and Microscale Approach, 3rd Ed." Should you wish more complete information regarding the chemicals with which you are working, consult a source containing the full MSDS. Information provided regarding first-aid procedures generally describes only the initial steps that should be taken should an accident occur.

Disclaimer

Neither the authors, The University of Texas at Austin, nor Thomson Learning, Inc., assumes responsibility for the accuracy of any of the data provided in the abbreviated Material Safety Data Sheets.

				A	cetamid	e				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
60-35-5	solid	colorless	distinct	174	221	80–82	1.159	10 @ 105		200%
Type Hazard/E		Acut	e Hazards/	Sympto	oms	Preve	First	Aid/Fire		
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,	ca	_ ,	chemical, iide, water, n.
Inhalation	Inhalation Irritation, drowsiness, fatigue, nause acidosis and skin eruptions.						, local	Rein	emove fro	om exposure y, get medical
Skin		Irritation.				Protective clothing.	gloves an	clo th	othes and	ntaminated jewelry, wash skin with
Eyes	Eyes Irritation, corneal damage.					Safety gog	gles.	re po	ith water it move con ossible, an	wash eyes for several min, tact lenses if id seek medical imediately.
Ingestion Drowsiness, fatigue, nausea, acidosis and skin eruptions.					acidosis	Do <i>not</i> eat the laborate		n Co im	ontact phy nmediately	
Carcinogen	icity	Suspected	carcinogen.			Mutagenie	city	No	ot a know	n mutagen.

Abbreviations:

		4-Acet	amido	benzene	esulfonam	ide			
CAS No. PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol
121-61-9 solid	off-white	N/A	N/A	N/A	219	N/A	N/A	A N/A	slightly soluble
Types of Hazard/Exposure	Acute	e Hazard	s/Sympt	toms	Prev	ention		Fi	rst Aid/Fire
Fire Flammable, emits toxic fumes under fire conditions. Avoid heat, sparks, flames.									ray, carbon dry chemical or appropriate
Inhalation	May be har	mful if ir	haled.		Ventilation exhaust.	ı, local			to fresh air. If g is difficult, give
Skin	May be irri	tating to	the skin.		Protective clothing.	gloves a	and	with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.
Eyes	Dust, vapor to the eyes.	, or mist	may be	irritating	Safety gog	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ting upper and s often. Seek
Ingestion	May be har	mful if sv	wallowed	1.	Do <i>not</i> eat the laborat		c in		wed wash out ith water. Call a n.
G						•,	Т	NT . 1	
Carcinogenicity	Not a know	n carcino		Mutagenie	city		Not a kn	own mutagen.	

Abbreviations:

CAS No.	PS	Color	Odor	FP	BP	MP d VP		VD	Sol		
121-60-8	solid	tan	acetic acid- like	N/A	N/A	145– 148	N/A	N/A		decomposes	
Types Hazard/Ex		Acu	ite Hazards/S	ymptor	ns	Pro	eventior	1	Fi	rst Aid/Fire	
Fire		Moderate :	fire hazard.			No flame no conta surfaces.	lioxide, dry l powder, or foam				
Corrosive material, chemical burns, coughing, wheezing, laryngitis, headache, and vomiting.						Ventilati exhaust.	on, loca	1	immedia	from exposure tely; get medical immediately.	
Skin		Corrosive	material, chen	nical bu	rns.	Protective clothing.		s and	clothes a thorough water, ar	contaminated and jewelry, aly wash skin with and get medical a immediately.	
Cyes Corrosive material, chemical burns.						Safety goggles.			Thoroughly wash ey with water for sever remove contact lens possible, and seek n attention immediate		
Ingestion			material, conv and symptoms gestion.			Do <i>not</i> e the labor		nk in	head low	ing occurs, keep ver than hips; get attention, if	

Abbreviations:

				A	cetanili	de						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
103-84-4	solid	white	odorless	169	304	114	1.219	1 @ 114	4.7	0.5%		
Type: Hazard/E		Acu	te Hazards/	Sympt	oms	Prev	ention		First	Aid/Fire		
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,	carb	Regular dry chemical, carbon dioxide, water, regular foam			
Inhalation			eczematous as in ingest		uptions,	Ventilation exhaust.	ı, local	imm imm	Remove from exposure immediately; get immediate medical attention.			
Skin			contact dern due to syste			Protective clothing.	gloves an	clotl	hes and oughly	ntaminated jewelry, wash skin with		
Eyes		Irritation				Safety gog	with reme poss	water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.			
Ingestion		Nausea, vomiting, sweating, gastric irritation, chills, brown-black urine, skin rash, hypotension, methemoglobinemia. Severe cases: hypothermia, and circulatory or respiratory failure.				Do <i>not</i> eat the laborate		head	l lower	occurs keep than hips, get ention, if		
Carcinogen	icity	Not a kno	wn carcinog	en.		Mutagenio	eitv	Poss	sible m	utagen.		

Abbreviations:

				A	cetic Ac	id						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
64-19-7	liquid	colorless	vinegary	39	118	N/A	1.049	11.8 @ 20	2.07	soluble		
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Prev	ention		First	Aid/Fire		
Fire			fire hazard., at distant i			No flames, no contact surfaces.		carb	on dio	y chemical, kide, water, m, alcohol am		
Inhalation		bronchitis,	pharyngeal e coughing, syngitis, pulnersion	shortne	ess of	Ventilation exhaust.	ı, local	imn imn	Remove from exposure immediately; get immediate medical attention.			
Skin		burns and	pain, erythe superficial o ly absorbed	destruct	tion of the	Protective clothing.	gloves ar	thor wate	hes and oughly er, get i	ntaminated jewelry, wash skin with nedical nmediately.		
Eyes Irritation, lacrimation, corne opacification, iritis, and pos of sight						Safety gog	gles.	with rem poss	water ove consible, an	wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Severe ulceronecrotic lesions, stricture of the esophagus, perforation of the esophagus and pylorus, diarrhea, shock, vomiting, abdominal spasms, thirst, rapid and weak pulse, slow and shallow breathing, laryngitis, bronchitis, pulmonary edema.					imm amo and occu occu	nediated ounts of allow ur; whe	ysician y. Give large water or milk womiting to n vomiting p head lower					
Carcinogen	icity	Not a know	wn carcinog	en.		Mutagenio	city	Poss	sible m	utagen.		

Abbreviations:

				Acet	ic Anhyd	lride					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
108-24-7	liquid	colorless	vinegary	54	138–140	-73	1.082	10 @ 36	3.52	reacts	
Type Hazard/E		Acut	te Hazards/	Sympt	toms	Prev	ention		First	t Aid/Fire	
Fire		may ignite contact wi	Fire hazard., at distant is th water or is ammable an	gnition noist a	sources, ir may	No flames, no contact surfaces.		dry		xide, regular al, alcohol am	
Inhalation		wheezing,	tation, coug chest pain, ich may be	and pu		Ventilation exhaust.	ı, local	imı imı	Remove from exposure immediately; get immediate medical attention.		
Skin			white, wrinl d severe bu		in,	Protective clothing.	gloves ar	clo tho wa	thes and roughly ter, get i	ontaminated l jewelry, wash skin with nedical nmediately.	
Eyes		blurred vis	mation, pho ion. Cornea al edema, ir ad opacity m	Safety gog	wit ren pos	h water nove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.				
Ingestion Severe burns of the and stomach with p swallowing, naused diarrhea.			ch with pair	ı, diffio	culty	Do <i>not</i> eat the laborate		imi am and occ	ounts of allow tur; whe	ysician y; give large water or milk, womiting to n vomiting head lower	
Carcinogen	icity	Not a know	vn carcinog	en		Mutagenio	city	No	ot a knov	vn mutagen.	

Abbreviations:

				1	Acetone							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
67-64-1	liquid	colorless	minty, sweet	-17	56	-94	0.791	180 @ 20	2.0	soluble		
Type Hazard/E		Acut	e Hazards/	Sympt	oms	Prev	ention		First Aid/Fire			
Fire			ire hazard., at distant i			No flames, no contact sources		carb	Alcohol resistant foam, carbon dioxide, regular di chemical, water			
Inhalation		throat, rest vomiting, slow, weal damage, co depression	dryness of the lessness, and slow, irregular pulse, live entral nervoluth weaking and a	orexia, lar respond k and k us systemess of	piration, idney em the legs,	Ventilation exhaust.	ı, local	imn		om exposure y; get medical		
Skin		layers of the	cellular dam ne epitheliun emia, small hrough intac	n with amoun	edema ts may be	Protective clothing.	gloves ar	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes Irritation, corneal epithelial, conjunctival, stinging sensation, and damage to eyes. Safety goggles. Thorou with wa remove possible				water ove consible, an	wash eyes for several min, ntact lenses if nd seek medical nmediately.							
Ingestion		membrane flushed che latent perio	r of the brea , gastroente eeks, shallo od followed ausea and v	ric irrita w respi by rest	ation, ration, tlessness,	Do <i>not</i> eat the laborat		imn occi	nediate	ysician ly. If vomiting p head lower		
Carcinogen	icity	Not a knov	vn carcinog	en.		Mutagenio	city	Pos	sible m	utagen.		

Abbreviations:

			p-Ac	etoph	enetidide (P	henac	etin)			
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
62-44-2	crystalline powder	white	odorless	N/A	decomposes	134– 135	N/A	N/A	A N/A	1 g/1310 mL
	es of Exposure	A	cute Haza	ards/Sy	mptoms	Pr	eventio	n	Fi	rst Aid/Fire
Fire		Slightly	flammabl	e.		No ope	en flame	s.		ray, dry chemical, oam, or carbon
Inhalation	1	Cyanosi depressi	s, dizzines on.	s, respi	ratory		exhaust ong prote		Remove medical	to fresh air. Get attention.
Skin		Possibly	a mild in	ritant.		Protect and clo	ive glov othing.	res	with plei water for while re- contamir	nated clothing and et medical
Eyes		Possibly	Safety	goggles		with plen least 15 lower an occasion	tely flush eyes aty of water for at min., lifting d upper eyelids ally. Get medical immediately.			
Ingestion Moderately toxic, causes cyanosis, dizziness, respiratory depression. Cardia arrest may occur. May result in liver and kidney damage.				ession. Cardiac		eat or d aborator		medical	omiting tely as directed by personnel. Call a 1 immediately.	
Carcinogenicity Possible carcinogen.							enicity		Not a kn	own mutagen.

Abbreviations:

				Ace	etopheno	one				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
98-86-2	liquid	colorless	floral	82	203	19-20	1.030	1 @ 15	4.14	0.55% @ 20
Type Hazard/E		Acut	e Hazards/	Sympt	oms	Preve	ention		First	t Aid/Fire
Fire		Moderate f	ire hazard.			No flames, no contact surfaces.		carb		y chemical, xide, water, m
Inhalation		Irritation, onervous sy headache,	sion w	ith	Ventilation exhaust.	, local	imn		om exposure y, get medical	
Skin		Irritation, 1 burns.	edness, pai	n, and	mild	Protective clothing.	gloves an	clot	hes and	ontaminated l jewelry, wash skin with
Eyes	Severe reaction with only transient optical irregularity of the corneal epithelium.						gles.	with rem poss	water ove consible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Sore throat, abdominal pain, nausea and central nervous system depression with headache, dizziness, and narcosis.					epression	Do <i>not</i> eat the laborate		imm occi	nediate	ysician ly. If vomiting p head lower
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.										

Abbreviations:

				A	dipic Acid					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
124-04-9	crystalline solid	white	odorless	196	337	150– 152	1.360	1 @ 159.5	5.04	1.4 g/ 100 mL
Type Hazard/I		Acı	Pre	vention		First Aid/Fire				
Fire		Combustib	le.			No ope	n flames			er spray, 1 dioxide.
Inhalation		Sore throat.	Local e breathi protect			h air, res	st. Refer for ntion.			
Skin		Redness.				Protect and clo	ive glove thing.	cloth	nes. Rin	taminated se skin with ter or shower.
Eyes	Redness and pain.						goggles.	wate remo	er for sev	rith plenty of veral minutes; act lenses if k medical
Ingestion		N/A				Do <i>not</i> drink in laborat	n the			n. Rest. Refer attention.
Carcinogen	icity	Not a know	n carcinos	gen.		Mutage	enicity	Not	a knowr	n mutagen.

Abbreviations: CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD =

vapor density relative to air (1.0); Sol = solubility in water; N/A = not available or not

applicable.

				A	Alumina	ı				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
1344-28-1	solid	white	odorless	N/A	2980	2053– 2072	3.965 @ 25	1 @ 2158	N/A	insoluble
Types of Acute Hazards/Symptoms Prevention First Aid/F Hazard/Exposure										
Fire		Negligible	fire hazard.			N/A		apj	e exting propriate roundin	
									mediatel	om exposure ly, get medical
Skin		Irritant de	rmatitis, pru	ritis.		Protective clothing.	gloves an	clo the	thes and	ontaminated I jewelry, wash skin with
remove conta						for several min, ntact lenses if nd seek medical				
Ingestion		N/A				Do <i>not</i> eat the laborate		hea me	ad lower	g occurs, keep than hips; get ention, if
Carcinogen	ioity	Possible c	rainagan			Mutagenio	ite	No	t a know	n mutagen.
Carcinogen	icity	r ossible C	arcmogen			wrutageill	ııy	110	i a KIIUW	n mutagen.

Abbreviations:

			A	lumi	num Ch	loride					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
7446-70-0	solid	white	pungent	N/A	N/A	190 @ 1900	2.44 @ 25	1 @ 100	N/A	reacts	
Types Hazard/E		Acuto	e Hazards	/Symp	toms	Prev	ention		First	Aid/Fire	
Fire	•	Negligible	fire hazard.			N/A			Carbon dioxide, regular dr chemical.		
Inhalation		contact wi choking, p throat and membrane tightness i	rosive hydro th moisture, pain in the n burns of the es. Symptom in the chest, and dizziness	cough ose, mo mucous may frothy	ing, outh and us include	Ventilation exhaust.	a, local	imn	nediatel	om exposure y, get medical nmediately.	
Skin		Severe irri burns.	tation, pain,	Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with			
Eyes		Redness, p	oain, blurred rns.	Safety gog	gles.	with rem poss attes	n water ove con sible, ar ntion in	y wash eyes for several min, ntact lenses if nd seek medical nmediately, wash eyes			
Ingestion		severe bur membrane tissues, sw difficult, v hemolysis	ain in the money of the must, discolorary allowing an comiting, dia kidney dan ith jaundice.	icous tion of d speed arrhea, nage, ar	the ch may be	Do <i>not</i> eat the laborate		von head med	niting o		
Carcinoge	nicity	Not a know	wn carcinog	en.		Mutagen	icity	Pos	sible m	utagen.	

Abbreviations: CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD =

vapor density relative to air (1.0); Sol = solubility in water; N/A = not available or not applicable.

				4-Ami	nobenzo	ic Acid				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
150-13-0	solid	white	N/A	N/A	N/A	188–189	1.374	N/A	N/A	5.39 g/L
Types Hazard/Ex		Acut	te Hazard	ls/Sympt	coms	Preve	ention		Fi	rst Aid/Fire
Fire		Emits toxi conditions	nder fire		No open fla sparks.	ray, Carbon dry chemical or appropriate				
Inhalation	May be harmful if inhaled. Irritatir to respiratory system. Do <i>not</i> breath in dust.						, local	ł c	oreathing	to fresh air. If g is difficult, give Seek medical
Skin		Causes ski sensitization				Protective g clothing.	gloves a	v a	with soap amounts	tely flush skin o and copious of water for at minutes.
Eyes	Causes eye irritation						gles.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	with cop water lift ower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.
Ingestion	Ingestion Harmful if swallowed.						or drink ory.	r		wed wash out ith water. Call a 1.
G : :		137.4	•4	1.	T , 1					
Carcinogenio	city	ogen.		Mutagenic	eity	1	Not a kno	own mutagen.		

Abbreviations:

			Ar	nmon	ium Hy	droxide				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
1336-21-6	liquid	colorless	pungent, sharp	N/A	36	N/A	0.90	115 @ 20	1.2	soluble
Type: Hazard/E	s of xposure	Acut	te Hazards/	Sympt	oms	Prev	ention		Firs	t Aid/Fire
Fire		Negligible	fire hazard.			N/A Use extinguishing a appropriate for surrounding fire.				
Inhalation	Irritation, swelling of the lips, restlessness, runny nose, headache, salivation, nausea, vomiting, difficulty in speaking, decreased respiratory function, and inflammation, or edema of the larynx.						, local	nediate	om exposure y; get medical	
Skin			n, stinging s vesiculation stains.			Protective clothing.	gloves ar	clo tho wa	thes and roughly ter, get	ontaminated l jewelry, wash skin with nedical nmediately.
Eyes		despite irri eyelids, an pressure. O possible, a	n, loss of congation, swe dincreased Corneal anes llowing dan rning discon	lling of intraoc sthesia nage to	f the ular is occur	Safety gog	gles.	wit ren pos	h water nove con sible, a	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion		corrosion of profuse sa swallow of hypotension	pain, circuit of the mucos livation, ina r speak. Sho on, weak and spiration, ar	us men bility t ock with d rapid	nbranes, o n marked pulse,	Do <i>not</i> eat the laborate		giv wa voi lov me	e large a er or m niting o	
Carcinogen	icity	en.		Mutagenio	eitv	No	a knov	n mutagen.		

Abbreviations:

					A 212							
					Aniline							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
62-53-3	liquid	colorless	fishy	70	184	N/A	1.022	0.6 @ 20	3.2	3.5%		
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Prev	ention		First Aid/Fire			
Fire			Fire hazard., at distant i									
Inhalation		May cause ingestion.	effects as d	escribe	d under	Ventilation exhaust.	om exposure y; get medical nmediately.					
Skin		readily abs a small am or shoes m	sensitization sorbed throu lount absorb lay cause to in acute inge	igh the ed fror xic syn	skin, and n clothes	Protective clothing.	gloves ar	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes		Redness, p damage.	ain, and pos	ssible c	orneal	Safety gog	gles.	with rem poss	water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion		Headache, abdominal cyanosis, I membrane and the ski central ner include co numbness joints, and crosses the exposure dethe fetus.	ess of the and movy blue ar slate a effects itability ies, pails. Anil arrier a	ne throat, ucous e to black e gray, s may v, vertigo, n in ine nd	Do <i>not</i> eat the laborate		imm occu than	ırs, kee hips; g	ysician y; if vomiting p head lower get medical nmediately.			
Carcinogen	icity	Possible ca	arcinogen.			Mutagenio	eity	Poss	sible m	utagen.		

Abbreviations:

			trai	ıs-p-Aı	nisalacet	ophenone						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
959-33-1	solid	yellow	N/A	N/A	N/A	73–76	N/A	N/A	N/A	insoluble		
	•		4 77	L /C	4		4.		TO!	4.4.1/17		
	oes of Exposure		ute Hazard			Preve	ention		First Aid/Fire			
Fire	•						, sparks	1	Water spray, carbon dioxide, dry chemical powder or appropriate foam.			
Inhalation	n	Irritant, n	nful if in	haled.	Ventilation exhaust.	, local	1	Remove to fresh air. If breathing is difficult, give oxygen.				
Skin		Irritant, r	nay be harı	nful to t	he skin.	Protective g clothing.	gloves a	; ;	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.		
Eyes	Vapor or mist is irritating to the eye may be harmful.						ety goggles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion		May be h	armful if s	wallowe	d.	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a 1.		
Carcinogenicity Not a known carcinogen. Muta							•4	Ι,	NT 4 1			
Carcinoge		Mutagenic	aty		Not a kno	own mutagen.						

Abbreviations:

				p-Ani	saldeh	yde				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
123-11-5	liquid	colorless	floral	116	118– 121	-1	1.119– 1.123	133.5 @ 73	4.7	slightly soluble
	Types of Acute Hazards/Symptoms zard/Exposure					Prev	First	t Aid/Fire		
Fire	Slight fire hazard.					Avoid heat sparks	t, flames,	cart		y chemical, xide, water, m.
Inhalation	lation N/A					Ventilation exhaust.	ı, local	imn		om exposure ly; get medical
Skin		Irritation.				Protective clothing.	gloves an	clot	hes and	ontaminated I jewelry, wash skin with
Eyes	N/A					Safety gog	gles.	with rem poss	n water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion	gestion					Do <i>not</i> eat the laborat		hea	d lower lical att	g occurs, keep than hips; get ention, if
Carcinogeni	city	Not a know	en.		Mutagenio	city	Not	a know	n mutagen.	

Abbreviations:

					Anisole							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
100-66-3	liquid	colorless	licorice- like	43	155	N/A	0.9961	10 @ 42.2	3.7	insoluble		
Typ Hazard/I	es of Exposure	Acu	te Hazard		First Aid/Fire							
Fire		Moderate may ignite				No flames no contact surfaces.		c	Alcohol resistant foam, carbon dioxide, regular chemical, water			
Inhalation	ı	Irritation,	dizziness,	or suffo	ocation	Ventilation exhaust.	ı, local	ir		from exposure tely; get medical		
Skin		Irritation				Protective clothing.	gloves ar	cl th	lothes a	contaminated nd jewelry, ıly wash skin with		
Eyes		Irritation				Safety gog	gles.	w re p	vith wat emove o ossible,	hly wash eyes er for several min, contact lenses if and seek medical immediately.		
Ingestion						Do <i>not</i> eat the laborat		h m	ead low	ng occurs, keep ver than hips, get attention, if		
Carcinoge	nicity	Not a know	wn carcino	gen		Mutageni	eitv	l N	lot a kn	own mutagen.		

Abbreviations:

				Az	obenze	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
103-33-3	solid	orange	N/A	>143	293	69	1.203	1 @ 103	N/A	insoluble
Types Hazard/Ex		Acut	e Hazards	/Sympto	oms	Prev		First Aid/Fire		
Fire		Slight fire	hazard.			Avoid hear flames.	carb	Regular dry chemical, carbon dioxide, water, regular foam.		
Inhalation			shortness dullness, b			Ventilation exhaust.	imn		om exposure y; get medical	
Skin		intact skin bluish skir	oossibly about the with dizzing and fainted of methem	Protective clothing.	clot	hes and oughly	ntaminated jewelry, wash skin with			
Eyes	symptoms of methemoglobeni Britation, redness, and pain.					Safety gog	gles.	with rem poss	n water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion	Abdominal pain, dizziness, dullness bluish skin, faintness, and methemoglobinemia.					Do <i>not</i> eat the laborat		imn occi thar	ırs, kee	ysician y; if vomiting p head lower get medical
Carcinogenicity Possible carcinogen. Mutagenicity Not a known mutagen.									n mutagen.	

Abbreviations:

			1,1'-Az	obis(cy	clohexa	necarboni	trile)				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
2094-98-6	solid	white	N/A	N/A	N/A	115–118	N/A	N/A	A N/A	insoluble	
Types Hazard/Ex		Acı	ute Hazaro	ds/Symp	toms	Preve	ention		Fi	rst Aid/Fire	
Fire		dust expl	ole. Capab osion. Co or under fir tic fumes u os.	ntainer e e conditi	xplosion ons.	No flames, no contact surfaces.		t	Smother with dry sand, limestone, or clay. A Class D extinguisher may be used.		
Inhalation		to respira	armful if interpretation in the can cause in the can cause in the cause in the can cause in the can cause in the can cause in the can cause in the c	Ventilation exhaust.	, local			to fresh air. If g is difficult, give			
Skin		Irritating	to the skir	Protective g clothing.	gloves a		with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.			
Eyes		Irritating	to the eyes	Safety gogg	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek			
Ingestion		May be h	armful if s	wallowe	d.	Do <i>not</i> eat the laborate				wed wash out ith water. Call a n.	
						1					
Carcinogeni	icity	Not a kno	own carcin	ogen.		Mutagenic	ity		Not a kno	own mutagen.	

				Ber	nzaldehy	y d e					
CAS No.	PS	Color	Odor	FP	BP	MP	d	1	V P	VD	Sol
100-52-7	liquid	colorless	almond- like	63	178	-26	1.0415 @ 10		@ 6.2	3.65	0.29%
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Prev	ention			First	Aid/Fire
Fire				npors or gases ition sources. No flames, no spark no contact with hot surfaces.					, Alcohol resistant foar carbon dioxide, regul chemical, water		
Inhalation	Sore throat, and coughing nervous system depression nausea, vomiting, headad lightheadedness.					Ventilation exhaust.	ı, local		imm		om exposure y; get medical
Skin			redness, pair , possible ab e skin.			Protective clothing.	gloves an		cloth	nes and oughly	ntaminated jewelry, wash skin with
Eyes	Irritation, lacrimation, redness, pair and eye injury.					Safety gog	gles.		with remo	water ove cor ible, ar	wash eyes for several min, atact lenses if ad seek medical anmediately.
Ingestion		depression abdominal	t, central ne a, nausea, vo pain, heada convulsions,	omiting iche, di	zziness,	Do <i>not</i> eat the laborate			imm occu than	ediatel rs, kee hips; g	ysician y; if vomiting p head lower get medical nmediately.
Carcinogen	icity	Not a know	wn carcinog	en.		Mutagenio	rity		Not :	a know	n mutagen.

Abbreviations:

				Be	nzamio	de						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
55-21-0	solid	solid colorless N/A 180 288 130 1.34					1.341	N/A	N/A	1.35%		
Types Hazard/Ex		Acute	e Hazards	/Sympto	oms	Prev	ention		First	Aid/Fire		
Fire		Slight fire l	nazard.			Avoid hear flames.	t, sparks,	carb		chemical, tide, water, n.		
Inhalation	nlation N/A					Ventilation exhaust.	n, local	imn	Remove from exposure immediately; get medical attention.			
Skin		N/A				Protective clothing.	clot	hes and oughly	ntaminated jewelry, wash skin with			
Eyes	N/A					Safety gog	Safety goggles.		water ove consible, an	wash eyes for several min, tact lenses if ad seek medical nmediately.		
Ingestion		Headache, a dullness, dr vomiting, a depression.	rowsiness, and central	nausea,		Do <i>not</i> eat the laborat		head	d lower	occurs keep than hips, get ention, if		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a						Mutagenie	city	Not	a know	n mutagen.		

Abbreviations:

				Ве	enzanilio	le				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
93-98-1	solid	colorless	N/A	N/A	117–119	N/A	1.315	N/A	N/A	insoluble
Types Hazard/E		Acut	e Hazards/	'Sympt	oms	Preve	ention		First	Aid/Fire
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,	carb		chemical, ide, water, n
Inhalation		N/A		Ventilation, local exhaust. Remove from exp immediately; get attention.						
Skin		May be abs	sorbed thro	ugh the	skin	Protective g	gloves and	cloth	nes and oughly	ntaminated jewelry, wash skin with
Eyes		Irritation				Safety gogg	gles.	with remo	water in the water	wash eyes for several min, tact lenses if d seek medical mediately.
				Do <i>not</i> eat the laborate		head	l lower ical atte	occurs keep than hips, get ention, if		
Carcinogen	icity	Possible ca	rcinogen.			Mutagenic	ity	Not	a know	n mutagen.

			В	enzenes	ulfonyl	Chloride						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
98-09-9	liquid	colorless	N/A	132	251– 252 dec	14.5	1.4	1.3 @ 20	N/A	reacts		
Type: Hazard/E		Acut	te Hazar	ds/Sympt	toms	Prev	ention		First	Aid/Fire		
Fire		Negligible explosion		ırd., sligh	t	N/A			Regular dry chemical, regular foam, water			
Inhalation		Acidic cor coughing, labored br chest, dizz blood pres	s and in the	Ventilation exhaust.	ı, local	imn	nediate	om exposure y; get medical nmediately.				
Skin		Redness, p	pain, and	serious b	urns.	Protective clothing.	gloves ar	clot thor wat	hes and oughly er, get i	ontaminated I jewelry, wash skin with nedical nmediately.		
Eyes		Irritation, l corneal dar		d perman	ent	Safety gog	gles.	with rem poss	n water ove con sible, a	y wash eyes for several min ntact lenses if nd seek medical nmediately.		
Ingestion	Severe burning pain in the mouth, throat and abdomen, nausea, vomiti diarrhea, sudden drop in blood pressure.					Do <i>not</i> eat the laborat		imn amo allo who keep get	nediatelounts of w vom en vom p head	ysician y; give large water or milk, iting to occur; ting occurs, lower than hips: l attention y.		
Carcinogen	icity	Not a know	wn carcin	ogen.		Mutageni	city	Not	a knov	n mutagen.		

Abbreviations:

	Benzilic Acid												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
76-93-7	powder	white	N/A	N/A	187	150–153	N/A	N/A	N/A	1.758 g/L			
Types of Acute Hazards/Symptoms Prevention First Hazard/Exposure													
Fire Emits toxic fumes under fire conditions. Avoid heat, span flames.									Water spray, Carbon dioxide, dry chemical powder or appropriate foam.				
Inhalation	1	Harmful b	y inhalatio	Ventilation exhaust.	, local	1	Remove to fresh air. If breathing is difficult, give oxygen. Seek medical advice.						
Skin		May cause	skin irrita	ation.		Protective g clothing.	gloves a	1	Immediately flush skin with soap and copious amounts of water for at least 15 minutes.				
Eyes May cause eye irritation. Safety goggles. Immed with cowater I lower.						with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.						
Ingestion		Harmful if	swallowe	ed.		Do <i>not</i> eat or drink in the laboratory.				wed, wash out ith water. Call a n.			
C	• - • 4	INT. 1				34-4	•4	I x	VT-4 - 1				
Carcinoge	nicity	Not a know	vn carcino	ogen		Mutagenic	ıty	1	Not a kno	own mutagen			

Abbreviations:

				Ben	zoic Ao	eid					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
65-85-0	solid	white	varying sharp	121	249	122	1.2659 @ 15	1 @ 96	4.2	2.9% @ 20	
Types of Acute Hazards/Symptoms Prevention First Aid Hazard/Exposure											
Fire		Slight fire	hazard.			Avoid heat, sparks, flames. Regular dry chemica carbon dioxide, water regular foam					
Inhalation	Inhalation Irritation, sore throat, and coughing						n, local	imm		om exposure y, get medical	
Skin		Irritation a	and redness			Protective clothing.	gloves an	clotl thor	Remove contaminated clothes and jewelry, thoroughly wash skin water.		
Eyes Irritation and redness Safety go							ggles.	with min- lens seek	water utes, re es if po	y wash eyes for several move contact ossible, and al attention y.	
Ingestion			at, gastric pa and allergio			Do <i>not</i> ear the laborar		head	l lower lical att	g occurs, keep than hips, get ention, if	
Carcinogen	icity	Not a kno	wn carcino	gen.		Mutageni	city	Not	a know	n mutagen.	

Abbreviations:

Benzoyl Chloride												
CAS No. PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
98-88-4 liquid	colorless	pungent	68	197	N/A	1.211	1 @ 32	4.88	decomposes			
Types of Hazard/Exposure	Acut	e Hazard	ls/Sympto	oms	Preve	ention		First	Aid/Fire			
Fire			, vapors or t ignition so		No flames, no contact surfaces.			oon dio	xide, regular dry			
Inhalation		eathing, pu	e throat, co almonary ed age.		Ventilation exhaust.	, local	imn and	nediatel at rest,	om exposure y; keep warm get medical nmediately.			
Skin	Irritation,	redness, p	ain, and bu	rns.	Protective sclothing.	gloves an	clot thor water	Remove contaminated clothes and jewelry, thoroughly wash skin w water, get medical attention immediately.				
Eyes	Irritation, and severe		ain, blurred	Safety gog	with rem poss	wash eyes for several min, ntact lenses if eek medical nmediately, and wash eyes						
Immediate pain and severe burns of mucous membranes of the mouth and throat and gastrointestinal tract, nausea, vomiting, abdominal pain, diarrhea, and central nervous system depression.						Do <i>not</i> eat or drink in the laboratory.			onscious, give ilk; if vomiting p head lower get medical nmediately.			
Carcinogenicity	Possible c	arcinogen	_		Mutageni	icity	Not	a know	n mutagen.			

				Ben	nzyl Bron	nide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
100-39-0	liquid	colorless	N/A	86	198–199	-31	1.439	0.242 @17		insoluble		
Typ Hazard/I	es of Exposure	Acu	te Hazard	s/Symp	toms	Preve	ention		Fi	rst Aid/Fire		
Fire	acidic gas that in contact with metal surfaces can generate flammable and/or explosive hydrogen gas. Emits toxic fumes under fire conditions. flames. chemical powder of appropriate foam. I use water.						powder or ate foam. Do not					
Inhalation	1	breath, hea		tion, co shortnes sea and	oughing, ss of vomiting.	Ventilation exhaust.	, local	b o	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately.			
Skin		Do not get extremely upper muc may include coughing,	on skin. Mestructive ous membrale burning wheezing,	Material to tissu anes. Sy sensatio laryngit	e of the ymptoms	Protective sclothing.	gloves a	a le	vith soap mounts east 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes	<u>~</u>						gles.	w lo	vith cop vater lift	tely flush eyes ious amounts of ing upper and s often. Seek advice.		
Ingestion	Ingestion Harmful if swallowed. Symptoms m include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache nausea and vomiting						Do <i>not</i> eat or drink in the laboratory.			wed, wash out ith water person is s. Call a		
Carcinoge	enicity	Not a know	vn carcinog	en		Mutagenic	ity	N	lot a kno	own mutagen		

		В	enzyltri	phenylp	hosph	onium Ch	lloride					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
1100-88-5	solid	off-white	faint	>299	N/A	300	1.18 @ 25	N/A	N/A	moderately soluble		
Types Hazard/Ex		Acut	te Hazard	ls/Sympton	ms	Prev	ention		First Aid/Fire			
Fire		Slight fire	hazard.			Avoid heat flames.	t, sparks,	carl		y chemical, xide, water, m.		
Inhalation						Ventilation exhaust.	ı, local	imr	Remove from exposure immediately; get medical attention.			
Skin		Absorption diarrhea on			ession,	Protective clothing.	clot	Remove contaminated clothes and jewelry, thoroughly wash skin water.				
Eyes	Eyes Irritation, death in animals.						gles.	with mir lens see	Thoroughly wash ey with water for severa minutes, remove con lenses if possible, an seek medical attention immediately.			
Ingestion		Depression diarrhea; k be affected	idneys, li		Do <i>not</i> eat the laborate	imr	Contact physician immediately; if vomiting occurs, keep head lower than hips.					
Carcinogeni	icity	Not a know	vn carcino	ogen		Mutagenio	rity	Not	a know	n mutagen.		

Abbreviations:

3853-88-1		Color	Odor	FP	BP	MP	d	VP	P VD Sol			
	solid	colorless	N/A	N/A	N/A	191– 193	N/A	N/A	N/A	slightly soluble		
Types of Acute Hazards/Symptoms Prevention Hazard/Exposure						Fi	rst Aid/Fire					
Fire Moderate fire hazard. No flames, no sparks, no contact with hot surfaces.						arks, 10t	Regular dry chemical, carbon dioxide, water, regular foam.					
Inhalation		exhaust. imn					immedia	Remove from exposure immediately; get medical attention.				
Skin		Irritation*				Protective clothing.		s and	clothes a	contaminated nd jewelry, nly wash skin with		
Eyes		Irritation* Safety goggles. Thoroughly wa with water for remove contact possible, and so					hly wash eyes er for several min contact lenses if and seek medical immediately.					
Ingestion N/A						Do <i>not</i> eat or drink in the laboratory.			If vomiting occurs, keep head lower than hips; ge medical attention, if needed.			

^{*}Toxicological information for the listed chemical is *not* available. Information given pertains to **cyclohexane-***cis***1,2-dicarboxylic acid** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
129-64-6	solid	white	N/A	N/A	N/A	164– 165	1.417	N/A	A N/A	reacts		
Types Hazard/Ex		Acu	te Hazards/	Symptor	ns	Pr	eventior	1	Fi	rst Aid/Fire		
Fire		SEVERE f	ire hazard.			No flameno conta surfaces.	ct with l		Regular dry chemical, sand, earth, regular foam.			
Inhalation		wheezing, nervous sy	runny or stuf asthmatic sy stem depress d vomiting.	mptoms,		Ventilati exhaust.		1	Remove from exposure immediately; get medical attention.			
Skin		cause centr	absorption the al nervous sy, headache, n	ystem	•	Protective clothing		s and	Remove contaminated clothes and jewelry, thoroughly wash skin wi water.			
Eyes Symptoms as given in acute skin contact.					Safety g	oggles.		Thoroughly wash eyes with water for several r remove contact lenses i possible, and seek med attention immediately.				
Ingestion		Symptoms	Do not e the labor		nk in	If vomiting occurs, keep head lower than hips; get medical attention, if needed.						

Abbreviations:

			В	orane-'	THF S	olution						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
14044-65-6	liquid	colorless	irritating	-17	>69	N/A	0.898	N/A	N/A	reacts		
Types Hazard/Ex		Acu	te Hazards	/Sympton	ns	Prevention First Aid/		Aid/Fire				
Fire		Severe fire	hazard.			No flames, no contact surfaces.		carb	Regular dry chemical, carbon dioxide, water, regular foam.			
Inhalation		Irritation, lyomiting.	headache, n	ausea, and	d	Ventilation exhaust.	ı, local	imn	Remove from exposure immediately; get medical attention.			
Skin		Irritation.				Protective clothing.	gloves an	cloti thor	Remove contaminated clothes and jewelry, thoroughly wash skin wi water. Thoroughly wash eyes with water for several mi remove contact lenses if possible, and seek medic attention immediately.			
Eyes		Irritation.				Safety gog	gles.	with rem poss				
Ingestion		Headache,	nausea, and	Do <i>not</i> eat the laborat	head med	If vomiting occurs keep head lower than hips, get medical attention, if needed.						
Carcinogenie	city	Not a knov	wn carcinog	en.		Mutagenie	city	Not	a know	n mutagen.		

Abbreviations:

	Bromine												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
7726-95-6	liquid	brown to red	irritating	N/A	59	N/A	3.12	175 @ 20	7.14	4%			
Types Hazard/Ex		Acu	te Hazards	/Sympton	ns	Prev	ention		First	t Aid/Fire			
Fire			fire hazard n contact w			Avoid cont combustible		als carb	Regular dry chemical, carbon dioxide, regular foam				
Inhalation		Irritation, copious mucous secretion, coughing, nosebleeds, and headache. Delayed symptoms: nausea, diarrhea and abdominal pains, pulmonary edema, pneumonitis or pneumonia.						Remove from exposur immediately; get immediate medical attention.					
Skin		redness, pa blisters, di	ensation, buain, brown ascharging per burns and	discolorat oustules,	tion,	Protective clothing.	gloves ar	cloth thor wate	Remove contaminated clothes and jewelry, thoroughly wash skin water, get medical attention immediately.				
Eyes			oain, blurre n, photoph			Safety gog	gles.	with remore possible attentions.	water ove con sible, se ntion in	y wash eyes for several min- ntact lenses if seek medical nmediately, and wash eyes			
stomach, brown discoloration and corrosion of the tongue and mucous membranes, sore throat, and vomiting.						imm amo and occu occu	nediated ounts of allow ar; whe	ysician y; give large water or milk womiting to n vomiting p head lower					
Carcinogeni	city	Not a know	wn carcinos	en.		Mutagenio	rity	Not	a know	n mutagen.			

Abbreviations:

	4-Bromoacetanilide												
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol			
103-88-8	solid	off- white	N/A	N/A	N/A	167–169	1.717	N/A	A N/A	insoluble			
Types of Acute Hazards/Symptoms Prevention First Aid Hazard/Exposure										rst Aid/Fire			
Fire		Flammab fire cond	ole. Emits itions.	toxic fun	nes under	Avoid heat, sparks, flames. Water spray, carbon dioxide, dry chemical powder or appropriate foam.							
Inhalation	halation May be irritating if inhaled. Ventilation, local exhaust.						ı, local		Remove to fresh air. If breathing is difficult, givoxygen.				
Skin		Irritating	to the skin			Protective clothing.	gloves a	and	with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove lated clothing.			
Eyes		Vapor or mist is irritating to the eyes. Safety goggles. Immediately flu						tely flush eyes ious amounts of ing upper and s often. Seek					
Ingestion		Toxic, ha	ırmful if sw	allowed.		Do <i>not</i> eat the laborat	01 011111	c in		wed wash out ith water. Call a n.			
Consine		Nat a 1 ::				Markone	a ! 4		Ma4 a 1 ::				
Carcinoge	ementy	Not a kno	own carcino	ogen.		Mutagenie	city		not a kno	own mutagen.			

Abbreviations:

				Brom	obenz	ene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P	VD	Sol	
108-86-1	liquid	colorless	pleasant	51	156	N/A	1.49	3 @	20	5.41	0.045%	
Types Hazard/Ex		Acut	te Hazards	/Sympton	ns	Prev	ention			First	Aid/Fire	
Fire			fire hazard. at distant			No heat, no sparks	o flames,	C	Alcohol resistant foam, carbon dioxide, regular d chemical, water.			
Inhalation		coughing,	neadache, s shortness o and dizzine	Ventilation exhaust.	i	Remove from exposure immediately, get medica attention.						
Skin		nausea, vo	redness, ab miting, dia nd central	rrhea, hea	dache,	Protective clothing.	t	Remove contaminated clothes and jewelry, thoroughly wash skin w water, get medical attention.				
Eyes		Irritation,	redness, and	d pain.		Safety goggles.			Thoroughly wash eye with water for severa remove contact lense possible, and seek me attention immediatel			
Ingestion		gastrointes vomiting,	abdominal tinal irritat diarrhea, di vous syster	Do <i>not</i> eat or drink in the laboratory.			If vomiting occurs keep head lower than hips, get medical attention, if needed.					
Carcinogeni	city	Not a know	vn carcinos	gen.		Mutagenio	city	1	Not a	a know	n mutagen.	

Abbreviations:

				1-Bı	romobut	tane				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
109-65-9	liquid	colorless	N/A	22	99-101	N/A	1.3	150 @ 25	4.7	insoluble
Type: Hazard/E		Acut	e Hazards/	azards/Symptoms Prevention First Aid/						
Fire		SEVERE f	ire hazard.			No open flasparks, no owith hot su Vapors or gignite at disignition sou	contact rfaces. gases ma stant	car reg	gular di bon dic gular foa	ry chemical, oxide, water, am
Inhalation	nhalation Irritation of mucous membranes, narcosis						, local	im		rom exposure ely; get medical
Skin		Irritation, t	ourns			Protective g	gloves ar	clo Th wit	thes an orough th water	ontaminated d jewelry. ly wash skin :. Get medical mmediately.
Eyes	yes Irritation						gles.	wit ren pos	th water	y wash eyes for several min intact lenses if and seek medical
Ingestion		Gastrointes narcosis.	stinal distur	bances	, possibly	Do <i>not</i> eat the laborate		hea me		
Carcinogen	icity	Not a know	vn carcinog	en.		Mutagenic	eitv	No	t a knov	wn mutagen.

Abbreviations:

			1	-Brom	noethylbe	enzene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
585-71-7	liquid	color- less	N/A	81	94 @ 16 torr	49.5–50.5	1.356	N/A	N/A	insoluble	
	es of Exposure	Acı	ıte Hazard	ls/Symp	otoms	Preve	ention		Fi	rst Aid/Fire	
Fire		Combusti	ible			Avoid heat flames.	, sparks		Water spray, carbon dioxide, dry chemical powder or appropriate foam.		
Inhalation	1	or mist is membran Symptom sensation laryngitis	to respirate irritating t es and resp as may incl , coughing, , shortness , nausea an	to the m iratory t ude bur wheezi of brea	nucous ract. ning ing, th,	Ventilation exhaust.	, local			to fresh air. If g is difficult, give	
Skin		Harmful Symptom sensation laryngitis	if absorbed as may incl , coughing, , shortness , nausea an	Protective g clothing.	gloves a		with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove lated clothing.			
Eyes			mist is irri			Safety gogg	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek	
Ingestion		may inclucing	if swallowed de burning , wheezing of breath, l ting.	ion, itis,	Do <i>not</i> eat the laborate				wed wash out ith water. Call a 1.		
Carcinoge	enicity	Not a kno	own carcino	ogen.		Mutagenic	eity		Not a kno	own mutagen.	

Abbreviations:

				2-B	romohex	ane				
CAS No. PS		Color	Odor	FP	BP	MP	d	VP	P VD	Sol
111-25-1 liqui	d	colorless	N/A	135	154–158	-85	1.176	<10	5.7	insoluble
Types of Hazard/Exposu	re	Acut	e Hazard	Preve	ention		Fi	rst Aid/Fire		
Fire		Combustib under fire o			umes	Avoid heat flames.	, sparks		dioxide,	ray, carbon dry chemical or appropriate
Inhalation		May be har to respirate			Irritating	Ventilation exhaust.	, local			to fresh air. If g is difficult, give
Skin		Irritating to	the skin	Protective goldhing.	gloves a		with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes	Eyes Irritating to the eyes.*						gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek
Ingestion		May be har	rmful if sv	vallowe	d.*	Do <i>not</i> eat, smoke duri				wed wash out ith water. Call a 1.
Carcinogenicity		Not a knov	vn carcino	gen.		Mutagenic	aty		Not a kn	own mutagen.

^{*} Toxicological information for the listed chemical is *not* available. Information given pertains to **1-bromohexane** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

			2-	Brom	onitrob	enzene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
577-19-5	solid	yellow	distinct	>110	261	40–42	1.62	N/A	7.0	almost insoluble		
Types Hazard/Ex		Acu	te Hazards/	'Sympt	oms	Prev	ention		First A	aid/Fire		
Fire		Slight fire	hazard.			Avoid heat and sparks.			Regular dry chemical, regular foam, water			
Inhalation			If sufficient methemoglo			Ventilation exhaust.		ediately,	n exposure get medical			
Skin		and may r	Skin absorp esult in met I in ingestio	Protective clothing.	gloves an	cloth	es and je oughly w	aminated ewelry, eash skin with				
Eyes		Irritation		Safety gog	gles.	with remo	water fo ve conta ble, and	vash eyes r several min, ct lenses if seek medical				
Ingestion		Nausea an coma, and	d vomiting, paralysis.	abdom	ninal pain,	Do <i>not</i> eat or drink in the laboratory.		head medi	If vomiting occurs, kee head lower than hips; g medical attention, if needed.			
Carcinogeni	icity	Not a know	wn carcinog	en		Mutagenio	itv	Not a	known	mutagen.		
Carcinogen	City	1 tot a kilo	wii carciilog	C11.		Mutageine	arj	1101 a	IIWUII	mutagen.		

Abbreviations:

			4-	Bron	onitrob	enzene				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
586-78-7	solid	off-white	N/A	N/A	255–256	125–127	1.934	N/A	N/A	insoluble
Types Hazard/Ex		Acut	e Hazards/	Sympt	oms	Preve	ention		First	Aid/Fire
Fire		Slight fire	nazard.			Avoid heat flames.		chemical, n, water		
Inhalation	Inhalation Irritation and possibly condition detailed in inhalation						, local	imm		om exposure y; get medical
Skin		Irritation, s and may re in inhalation	sult in cond			Protective g clothing.	gloves an	clotl	hes and oughly	ntaminated jewelry, wash skin with
Eyes	Eyes Irritation					Safety gogg	gles.	with remo	water	wash eyes for several min, tact lenses if ad seek medical
Ingestion		Nausea and confusion, loss, anores slurred spe	irritability, xia, emacia	tremon	r, memory eadache,	Do <i>not</i> eat the laborate		head	l lower	occurs, keep than hips; get ention, if
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen							n mutagen.			

Abbreviations:

				4-B1	romophe	enol					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P	VD	Sol
106-41-2	solid	white to off-white	N/A	N/A	235–236	64–68	1.840 @ 15	neg gib		N/A	>10%
Type: Hazard/E		Acut	toms	Preve	ention			First	Aid/Fire		
Fire	Slight fire hazard.						Avoid heat, sparks, flames. Regular dry chen carbon dioxide, v regular foam				
Inhalation	nhalation Irritation					Ventilation exhaust.	i		ediatel	om exposure y; get medical	
Skin		Irritation, d	epigmenta	tion		Protective a clothing.	t	cloth	es and oughly	ntaminated jewelry, wash skin with	
Eyes	res Irritation					Safety gog	gles.	r F	with water remove co		wash eyes for several min, tact lenses if ad seek medical
Ingestion		Rapidly abagastroenter vomiting, a	ic tract, nau	isea and	d	Do <i>not</i> eat the laborate		h r	head	lower	occurs, keep than hips, get ention, if
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.											

Abbreviations:

				1-Bro	nopro	pane				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
106-94-5	liquid	colorless	N/A	22	71	-110	1.353	100 @18	4.25	0.25 g/100 mL:
Typ Hazard/I	es of Exposure	Acut	te Hazards	s/Sympton	ns	Prev	ention		First	Aid/Fire
Fire		Flammable	e liquid an	d vapor.		NO open fi sparks.	lames or	foar	n or car	eal, alcohol bon dioxide. be ineffective.
Inhalation	ı	Causes irri tract. Symp coughing, central ner	ptoms may shortness o	include of breath.	A	Local exha	ust.	brea oxy	thing is	fresh air. If s difficult, give et medical
Skin		Causes irri include rec		Protective clothing	gloves and	with leas cont shoe	n plenty t 15 mi taminat	y flush skin of water for at nutes. Remove ed clothing and medical		
Eyes		Causes irri	tation, red	ness, and	pain.	Safety gog	gles.	with leas uppo	n plenty t 15 mi er and l	y flush eyes of water for at nutes, lifting ower eyelids y. Get medical
Ingestion		Causes irri tract. Symp vomiting a	ptoms may	include n		Do <i>not</i> eat the laborate		in Give large amounts of water to drink. Get medical attention.		nk. Get
Carcinoge	nicity	Not a know	vn carcino	gen.		Mutagenio	city	Poss	sible m	utagen.

Abbreviations:

			4-Bron	mo-2-	chloroa	ncetanil	ide				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	VD	So	1
3460-23-9	solid	colorless	N/A	N/A	N/A	151	N/A	N/A	A N/A	insolu	ıble
Types Hazard/Ex		Acu	te Hazards/S	ymptor	ns	Pr	evention	1	Fir	rst Aid/Fir	·e
Fire	;	Moderate f	fire hazard.	No flames, no sparks, Regular no contact with hot carbon surfaces regular fo				dioxide,	nemical, water,		
Inhalation		Irritation,	may be harmft		Ventilati exhaust.	,	local	Remove from exposur immediately, get medica attention.			
Skin		Irritation, through sk		ful if	absorbed	orbed Protective gloves and Remove conta				minated jewelry, tin with	
Eyes	Eyes Irritation.*						oggles.		with water remove possible,	nly wash er for sever contact le and seek t immediate	ral min, nses if medical
Ingestion		Irritation,	may be harmfi	ıl.*		Do not e the labor		ink in	If vomit	ing occur ver than hi attentio	s, keep ips; get
Carcinogen	icity	Not a know	wn carcinogen	.*		Mutage	nicity		Not a kno	own mutag	en.*

^{*}Toxicological information for the listed chemical is *not* available. Information given pertains to **2-chloroacetanilide** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

			4-	Bromo	o-2-chlo	roaniline					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol	
38762-41-3	solid	colorless	N/A	N/A	N/A	70–72	N/A	N/.	A N/A	insoluble	
Types Hazard/Ex		Acut	e Hazard	ls/Symp	toms	Preve	ention		Fi	rst Aid/Fire	
Fire		Low fire ha	azard.			Avoid heat, sparks, flames. Water spray, carbo dioxide, dry chem powder or appropriate foam.					
Inhalation		Harmful if	inhaled.			Ventilation exhaust.	, local		breathing	to fresh air. If g is difficult, give Seek medical	
Skin		Harmful if	in contac	et with sl	kin.	Protective clothing.	gloves a	and	with soa	tely flush skin p and copious of water for at minutes.	
Eyes				Safety gogg	gles.		with cop water lift lower lid	tely flush eyes ious amounts of ting upper and s occasionally. dical advice.			
Ingestion		Harmful if	swallowe	ed.		Do <i>not</i> eat or drink in the laboratory.				wed, wash out ith water.	
Carcinogeni	city	Not a know	vn carcino	gen		Mutagenic	ity		Not a kno	own mutagen	

Abbreviations:

			4-Bro	omo-2-c	chloro-6-	iodoanili	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
147-82-0	liquid	beige	N/A	N/A	300	120–122	N/A	N/A	N/A	insoluble	
				- 10							
	es of Exposure	Ac	ute Hazaro	ds/Sympt	toms	Prev	ention		Fir	rst Aid/Fire	
Fire		Emits tox condition	xic fumes u ns. *	nder fire		Avoid hear flames.	t, sparks	1	dioxide,	ray, carbon dry chemical or appropriate	
Inhalation	1	Highly T	oxic if inha	aled. *		Ventilation, local Remove to fresh breathing is difficulties oxygen.					
Skin		Toxic if a skin irrita	absorbed th ation. *	rough sk	in. Causes	Protective clothing.	gloves	\ a 1	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove sated clothing.	
Eyes	Harmful to the eyes. *						gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek	
Ingestion		Highly to	oxic if swal	lowed. *		Do <i>not</i> eat the laborat		1		wed, wash out ith water. Call a 1.	
Carcinoge	nicity	Carcinog	en *		Mutageni	city]	Not a kn	own mutagen.*		

^{*} Toxicological information for the listed chemical is not available. Information given pertains to 2,4,6tribromoaniline and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point Abbreviations:

(°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD = vapor density (g/mL); Sol = solubility in water; N/A = not available or not applicable.

			1-Bromo	-3-chl	oro-5-io	odobenz	zene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	VD	Sol		
13101-40-1	solid	colorless	N/A	N/A	N/A	85.8	N/A	N/A	A N/A	insoluble		
Types o		Acu	te Hazards/S	ympton	ns	Pr	eventio	1	Fi	rst Aid/Fire		
Fire		Moderate f	ire hazard.						s, Regular dry chemic of carbon dioxide, wate regular foam.			
Inhalation			y tract effects, ects, and poss			Ventilati exhaust.	ion,	local	I Remove from exposure immediately, artificial respiration if needed; get medical attention.			
Skin		Irritation, p	Protective clothing.		es and	Remove clothes thorough water.	contaminated and jewelry, ly wash skin with					
Eyes Lacrimation, irritation corrosion.*				and	possibly	Safety go	oggles.		with water remove possible,	nly wash eyes er for several min, contact lenses if and seek medical immediately.		
Ingestion		N/A				Do not ethe labor		ink in		ing occurs, keep ver than hips; get attention, if		
Carcinogenic	ity	Not a know	n carcinogen.	*		Mutager	nicity		Not a kno	own mutagen.*		

^{*}Toxicological information for the listed chemical is *not* available. Information given pertains to **1,3,5-tribromobenzene** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

			2-B1	romo-2	2-meth	ylbutan	e					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol		
507-36-8	liquid	colorless	N/A	4	107	N/A	1.182	N/A	A N/A	N/A		
Types Hazard/Ex		Acu	te Hazards/S	ympton	ns	Pr	evention	l	First Aid/Fire			
Fire	Severe fire hazard; vapors may ignite distant ignition sources.						es, <i>no</i> sp		Carbon dioxide, dry chemical powder, foam, water.			
Inhalation		May be har	mful.			Ventilati exhaust.	ion, local			from exposure tely; get medical		
Skin		Irritation, r	nay be harmfu in.	ıl if abso	orbed	Protective	ve gloves	and	Remove contaminated clothes and jewelry, thoroughly wash skin water.			
Eyes		Irritation, n		Safety g	hly wash eyes er for several min, contact lenses if and seek medical immediately.							
Ingestion		May be har	mful.			Do not e the labor	eat or drii ratory.	nk in	If vomiti head low	ng occurs, keep er than hips; get attention, if		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known								own mutagen.				

Abbreviations:

				1	-Butano	l					
CAS No.	PS	Color	Odor	FP	BP	MP	d	1	/ P	VD	Sol
71-36-3	liquid	colorless	irritating	29	117	N/A	0.81		5.5	2.55	7.7%
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Prev	ention		First Aid/Fire		
Fire			fire hazard., e at distant i			No flames, no contact surfaces.			carl		esistant foam, oxide, regular dry water
Inhalation		throat, cou	ritation. At Ighing, naus estem depres	Ventilation exhaust.	ı, local		Remove from exposure immediately; get medical attention.				
Skin	irritation with redness a may be absorbed throug					Protective gloves and clothing.			clot	ontaminated d jewelry. y wash skin	
Eyes	moderate temporary injury					Safety goggles.			Thoroughly wash eyes with water for several remove contact lenses i possible, and seek med attention immediatly.		
Ingestion	abdominar pain, nausea, vointing, and L				Do <i>not</i> eat or drink in the laboratory.			Contact physician immediately. If vomiting occurs, keep head lower than hips; get medical attention immediately.			
Carcinogen	nicity	Not a know	wn carcinog	en.		Mutagenio	eity		Pos	sible n	nutagen.

Abbreviations:

				2	-Butano	l					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
78-92-2	liquid	colorless	strong, pleasant	24	94	-115	0.81	13 @ 20	2.6	15 g/ 100 mL.	
Type Hazard/E		Acute	Hazards	/Symp	otoms	Preve	ention		First .	Aid/Fire	
Fire		Flammable				No flames, no sparks, no contact with hot sufaces Foam, powder, a resistant foam, w spray, carbon did					
Inhalation	Dizziness. Drowsiness. Headache.					Local exha	ust.		h air, res	st. Refer for ntion.	
Skin	Dry skin.					Protective g	nes. Rin	taminated se skin with ter or shower.			
Eyes	Redness. Pain. Blurred vision.					Safety gogg	wate remo	First rinse with plenty water for several minute remove contact lenses i possible; seek medical attention.			
Ingestion	Dizziness. Drowsiness. Headache. Do <i>not</i> eat or drink in the laboratory. Rinse mouth. Give professional pr					lrink. Refer for					
Carcinogenicity Not a known carcinogen.						Mutagenic	ity	Not	a known	mutagen.	

CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = Abbreviations: density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD = vapor density relative to air (1.0); Sol = solubility in water; N/A = not available or not

applicable.

			2-]	Butanone	•						
CAS No. PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
78-93-3 liquid	colorless	sharp, mint- like	-9	80	-86	.805	78 @ 20	2.5	29 g/ 100 mL		
Types of Hazard/Exposure	Acut	e Hazard	s/Symp	otoms	Prev	ention		First Aid/Fire			
Fire	Highly flan	nmable.			No flames sparks, no with hot s	contact		Powder, AFFF, foam, carbon dioxide.			
Inhalation	Cough. Dizziness. Dullness. Headach Nausea. Shortness of breath. Unconsciousness. Vomiting.					aust.		Fresh air, rest. Refer for medical attention.			
Skin	· ·					Protective gloves and clothing.			taminated se skin with ter or shower.		
Eyes	Redness. Pain.				Safety go	ggles.	reme easil	First rinse with plenty water for several minut remove contact lenses easily possible; seek medical attention.			
Ingestion	Dizziness. Diowsiness. Headache.					t or drink oratory.	of w	Rinse mouth. Give plent of water to drink. Refer t medical attention.			
Carcinogenicity	Carcinogenicity Not a known carcinogen.						Poss	sible mu	tagen		

Abbreviations:

				3-B	uten-2-	one						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
78-94-4	liquid	colorless	irritating	-6	81	N/A	0.842	120 @ 34	1.3	soluble		
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Prev	ention		First Aid/Fire			
Fire			fire hazard., at distant i			No flames no contact sufaces		carb		sistant foam, kide, regular dry vater		
Inhalation		pulmonary chest, cyan pressure; c	choking, por edema, tight nosis, dizzin entral nervo , headache,	htness i less, lo lus syst	in the w blood em	Ventilation exhaust.	ı, local	imm and	nediatel at rest;	om exposure y; keep warm get medical nmediately.		
Skin		through the	pain, burns; e skin may c estem depres nausea, von	Protective clothing.	gloves ar	cloth thor wate	hes and oughly er, and	ntaminated jewelry, wash skin with get medical nmediately.				
Eyes		Irritation,	pain, and bu	irns.		Safety gog	gles.	with rem poss atter	water ove corsible, sention in tion in the correction in the corre	wash eyes for several min, tact lenses if ek medical namediately, and was eyes with medical help		
Ingestion		discolorati swallowin	Immediate pain and severe burns, discoloration of the tissues, swallowing and speech may be difficult or impossible, and shock.				or drink ory.	vom head med	iting o l lower ical att			
Carcinogen	icity	Possible ca	arcinogen			Mutagenie	rity	Not	immediately. Not a known mutagen.			

Abbreviations:

				n-But	tyl Ace	tate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VF	VD	Sol	
123-86-4	liquid	colorless	mild, fruity	26	126	-77	.8826	15 @ 25		ca. 0.7%	
Types Hazard/Ex		Acı	ıte Hazards/Sy	mpton	ıs	Pr	evention	1	First Aid/Fire		
Fire		Highly fla	mmable.			No flame no conta sufaces			Powder, AFFF, foam, carbon dioxide.		
Inhalation		Cough. Di Nausea.	zziness. Dullne	dache.	Local ex breathing				, rest. Refer for attention.		
Skin		Dry skin.	Redness.		Protective clothing.		s and	Remove contaminated clothes. Rinse skin w plenty of water or sho			
Eyes		Redness. l	Pain.		Safety goggles.			First rinse with plenty water for several minute remove contact lenses it easily possible; seek medical attention.			
Ingestion	gestion N/A					Do not e the labor		nk in	Rinse mouth. Do <i>not</i> induce vomiting. Rest. Refer for medical attention.		
Carcinogen	arcinogenicity Not a known carcinogen.						nicity		Not a kno	own mutagen.	

Abbreviations:

			teri	t-Buty	l Peroxy	benzoate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol		
614-45-9	liquid	colorless to light yellow	N/A	93	75–76 @ 0.2 torr	8	1.021	3.3 @ 5		insoluble		
		1	** 1	10				1	First Aid/Fire			
	oes of Exposure	Acuto	e Hazard	s/Symp	otoms	Prev	ention		Fi	rst Aid/Fire		
Fire		Flammable may acceled fumes under	rate fires.	Emits	toxic	No open fla sparks. No			Carbon dioxide, dry chemical powder or appropriate foam.			
Inhalatio	n	May be harmful if inhaled.				Ventilation exhaust.	, local		Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		May be harmful if absorbed through skin.				Protective clothing.	gloves a	and	Immediately flush skin with soap and copious amounts of water for at least 15 minutes. Remove contaminated clothing.			
Eyes		May be harmful to the eyes.				Safety goggles.			Immediately flush eyes with copious amounts of water lifting upper and lower lids often. Seek medical advice.			
Ingestion	May be harmful if swallowed.				ed.	Do <i>not</i> eat the laborate		c in		wed wash out ith water. Call a 1.		
Consiner	minite	Not a know	.m. oomoi			Mutagenia	.:4		Not a l-	oven mutocon		
Carcinogo	ementy		Mutagenicity Not a known mutager				own mutagen.					

Abbreviations:

				n-B	utylbenz	zene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol	
104-51-8	liquid	colorless	mild aromatic	54	182–183	-88	0.86	N/A	A N/A	insoluble	
Type: Hazard/E		Acu	te Hazards	s/Symp	otoms	Prev	ention		Fir	rst Aid/Fire	
Fire			ole and flance fumes un			No flames no contact surfaces.				lioxide, dry powder or ate foam.	
Inhalation	not breathe vapor.					Ventilation exhaust.	n, local		Remove to fresh air. If breathing is difficult, gi oxygen. Seek medical advice.		
Skin	May be harmful absorbed skin.				nrough	Protective clothing.	gloves a	and	Immediately flush skin with soap and copious amounts of water for at least 15 minutes.		
Eyes	May cause eye irritation.					Safety gog	Safety goggles.		with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.	
Ingestion	May be harmful if swallowed.					Do <i>not</i> eat the laborat		c in			
Carcinogenicity Not a known carcinogen.						Mutageni	city		Not a kno	own mutagen.	

Abbreviations:

				sec-l	Butylben	zene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
135-98-8	liquid	colorless	mild aromatic	45	173–174	-75	0.863	4	N/A	N/A	
	es of Exposure	Acut	te Hazard	s/Symp	otoms	Preve	ention		First Aid/Fire		
Fire		Flammabl fire condit		oxic fu	mes under	No flames, no contact surfaces.		t d	Water spray, carbon dioxide, dry chemical powder or appropriate foam.		
Inhalation	1	Harmful if respiratory		Irritatin	ig to	Ventilation exhaust.	, local	l		to fresh air. If g is difficult, give	
Skin		Irritating t	o the skin.	Protective clothing.	gloves a	1	Immediately flush skin with soap and copious amounts of water for at least 15 minutes. Remove contaminated clothing.				
Eyes		Irritating to	o the eyes.	Safety goggles.			Immediately flush eyes with copious amounts water lifting upper and lower lids often. Seek medical advice.				
Ingestion	Ingestion May be harmful if swallowed.			ed.	Do <i>not</i> eat or drink in the laboratory.						
Carcinogenicity Not a known carcinogen.					Mutagenio	eity	1	Not a kno	own mutagen.		

Abbreviations:

				tert-B	utylben	zene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
98-06-6	liquid	colorless	mild aromatic	34	169	-58	0.867 4.7		3.16 @ 169	insoluble		
Type Hazard/I		Acu	te Hazards	s/Sympt	oms	Prev	ention		First Aid/Fire			
Fire		Flammabl fire condit	e. Emits to ions.	oxic fun	nes under	No flames no contact surfaces.		ot c a r	Carbon dioxide, dry chemical powder or appropriate foam. Water may cool, but <i>not</i> extinguish.			
Inhalation	May be harmful if inhaled.					Ventilation exhaust.	n, local	b	Remove to fresh air. If breathing is difficult, gooxygen.			
Skin	May be harmful if absorbed through skin.				hrough	Protective clothing.	gloves a	and I v a l				
Eyes	May be harmful to the eyes.					Safety gog	gles.	I v v 1	mmedia vith cop vater lift	tely flush eyes ious amounts of ting upper and s often. Seek		
Ingestion	May be harmful if swallowed.					Do <i>not</i> eat the laborat		r		wed wash out ith water. Call a		
Carcinogenicity Not a known carcinogen.						Mutageni	city	In	Jot a kno	own mutagen.		

		Negligible Irritation, cobreath.		i.		Prev N/A Ventilatior exhaust.	2.15 @ 25	appr surr Ren imn	extings ropriate ounding		
Types of Hazard/Expos Fire Inhalation	•	Acut Negligible Irritation, cobreath.	e Hazards	s/Sympto	ms	Prev N/A Ventilation	@ 25	Use appi surr Ren imn	First extinguropriate counding move from diately	Aid/Fire uishing agents for g fire. om exposure	
Hazard/Expos Fire Inhalation		Negligible Irritation, cobreath.	fire hazaro	i.		N/A Ventilation		appr surr Ren imn	extings ropriate rounding nove fronediatel	uishing agents for g fire.	
Fire Inhalation		Irritation, obreath.			ness of	Ventilation	ı, local	appr surr Ren imn	ropriate ounding nove fronediatel	for g fire.	
		breath.	coughing,	and shorti	ness of		ı, local	imn	nediatel		
Skin		Severe irrit		breath.							
	Severe irritation, erythema, blisteri exfoliation, and ulceration.					Protective clothing.	gloves and	clot thor wate	hes and oughly er, get r	ntaminated jewelry, wash skin with nedical nmediately.	
Eyes	Irritation, redness, pain, and superficinjury.					Safety gog	with rem poss	Thoroughly wash eyes with water for several remove contact lenses possible, and seek meattention immediately			
Ingestion	Abdominal spasms, nausea, gastrointestinal tract or cardiovascular irregularities.					Do <i>not</i> eat the laborate		head med	If vomiting occurs, keep head lower than hips; get medical attention, if needed.		

Abbreviations:

				Calciu	т Нурос	chlorite						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7778-54-3	granular powder	off-white	N/A	N/A	N/A	100	2.350	N/A	/A N/A decompo			
Type Hazard/E		Acut	e Hazard	ls/Symp	toms	Prev	ention		First Aid/Fire			
Fire		Contact wi fire. Conta material m water liber toxic fume	act with c ay cause t ates a tox	ombusti fire. Cor ic gas.	ble ntact with Emits	No open fl sparks.	ames or	(lioxide, dry powder or tte foam.		
Inhalation		Harmful if respiratory dust. Sym include bu wheezing, breath, hea vomiting.	inhaled. system. ptoms of rning sens laryngitis	Irritatin Do not exposur sation, c , shortne	g to breathe in te may oughing, tess of	Ventilation exhaust.	ı, local	1	Remove to fresh air. If breathing is difficult, g oxygen. Seek medical advice.			
Skin		Causes ski	Protective clothing.	gloves a	1	Immediately flush skin with soap and copious amounts of water for at least 15 minutes.						
Eyes		Causes sev	Safety goggles.			Immediately flush eye with copious amounts water lifting upper and lower lids occasionall Seek medical advice.						
Ingestion		Harmful if swallowed. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.				Do <i>not</i> eat the laborat		1		wed wash out ith water. Call a 1.		
Carcinogen	icity	Not a know	vn carcino	ogen.		Mutageni	city	1	Not a kno	own mutagen.		

Abbreviations:

Carbon, Decolorizing												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7440-44-0	solid	black	odorless	N/A	N/A	N/A	1.8–2. 1	1 @ 3586	N/A	insoluble		
Types Hazard/Ex		Acu	te Hazards	/Sympton	ms	Prev	ention		First	Aid/Fire		
Fire		Severe fire exposure t	e hazard., m o air.	nay ignite	on	No flames, no contact sufaces		sanc	Regular dry chemical, sand, earth, regular foam, water			
Inhalation	Mucous memorane irritation					Ventilation exhaust.	ı, local	imn	Remove from exposure immediately; get medicattention.			
Skin	kin N/A					Protective clothing.	gloves an	clot	hes and oughly	ontaminated l jewelry, wash skin with		
Eyes	S Irritation					Safety gog	with rem poss	Thoroughly wash eyes with water for several remove contact lenses possible, and seek med attention.				
Ingestion	n/A					Do <i>not</i> eat the laborat		head	d lower lical att	g occurs, keep than hips; get ention, if		
Carcinogeni	city	Not a kno		Mutagenio	city	Not	a know	n mutagen.				

Abbreviations:

				C	arvone	;					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
2244-16-8	liquid	colorless	spice-like	98	230	N/A	0.9608	N/A	N/A	insoluble	
Types Hazard/Ex		Acu	te Hazards/	Sympton	ms	Prev	ention		First	Aid/Fire	
Fire		Moderate:	fire hazard.			No flames no contact sufaces.		carb	Alcohol resistant foam, carbon dioxide, regular dr		
Inhalation	halation Irritation.					Ventilation exhaust.	n, local	imn		om exposure y; get medical	
Skin		Erythema,	skin absorp	otion may	occur.	Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with	
Eyes	Tyritation.					Safety gog	ty goggles. Thoroughly wash e with water for sever remove contact lens possible, and seek rattention immediate.			for several min, ntact lenses if nd seek medical	
Ingestion						Do <i>not</i> eat the laborat		head	d lower lical att	occurs, keep than hips; get ention, if	
Carcinogeni	city	Not a kno	wn carcinog	en.		Mutageni	city	Not	a know	n mutagen.	

Abbreviations:

			Carvone	2,4-Di	initroph	enylhydra	zone					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
1567-89-1	solid	red	N/A	N/A	N/A	126–128	N/A	N/A	N/A	insoluble		
Types Hazard/Ex		Acu	te Hazaro	ls/Symp	toms	Preve	ention		Fi	rst Aid/Fire		
Fire			mable. Er condition		c fumes	Avoid heat, flames.	, sparks,	di po	ioxide,	ray, carbon dry chemical r appropriate		
Inhalation			armful if in to respirate			Ventilation, exhaust.	, local	bı	Remove to fresh air. If breathing is difficult, gi oxygen.			
Skin		Irritating	to the skin			Protective g clothing.	gloves a	w ar le	vith soap mounts east 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.		
Eyes		Dust, vap to the eye	or, or mist s.	may be	irritating	Safety gogg	gles.	Ir w w lo	nmedia vith cop vater lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion		Harmful i	f swallowe	Do not eat the laborate		m		wed wash out ith water. Call a				
Caroinagania	:4.,	Not a Imo	un aerain	200		Mutagania	:4	In	lot a lend	own mutagan		
CarcinogenicityNot a known carcinogen.MutagenicityNot a known										own mutagen.		

Abbreviations:

				(Celite					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol
61790-53-2	solid	white to off-white	odorless	N/A	2230	1700	1.9– 2.35	non	ne N/A	insoluble
Types Hazard/Ex		Acut	te Hazards	/Symptor	ns	Prev	ention		Fir	st Aid/Fire
Fire		Negligible	fire hazard	approp						guishing agents e for ng fire.
Inhalation			iscomfort o			Ventilation exhaust.	rom exposure ely, get medical			
Skin		Mechanica	al irritation.			Protective clothing.	gloves an	cl th	lothes an	ontaminated d jewelry, y wash skin with
Eyes	Eyes Mechanical irritation.						Safety goggles.		vith wate emove co ossible, a	ly wash eyes r for several min, ontact lenses if and seek medical mmediately.
Ingestion		Chemicall ingestion.	y and biolo	gically in	ert on	Do <i>not</i> eat the laborate		h n	ead lowe	g occurs, keep or than hips; get ttention, if
Carcinogenio	city	Possible ca	arcinogen.			Mutagenic	ity	N	ot a kno	wn mutagen.

Abbreviations:

			Cei	ric Amr	noniur	n Nitrate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
16774-21-3	solid	yellow to red	odorless	N/A	N/A	N/A	N/A	N/A	N/A	142.6% @ 25		
Types Hazard/Ex		Acut	e Hazards	/Sympton	ms	Prev	ention		First	Aid/Fire		
Fire			fire hazard			Avoid con combustib			Water			
Inhalation			tation, sore and shortne		ath.	Ventilation exhaust.	n, local	imn		om exposure y; get medical		
Skin		Irritation, 1	redness, and	d pain.		Protective clothing.	gloves an	clot	hes and	ntaminated jewelry, wash skin wit		
Eyes		Irritation, 1	redness, and	d pain.		Safety gog	gles.	with rem poss	n water ove cor sible, ar	wash eyes for several mir ntact lenses if nd seek medica nmediately.		
Ingestion		Burning sensation, abdominal pain, nausea, vomiting, and diarrhea.				Do <i>not</i> eat the laborat		hea med	d lower	occurs, keep than hips; get ention, if		
Carcinogenio	city	Not a know	vn carcinos	gen.		Mutageni	Not	Not a known mutagen.				

Abbreviations:

			4-	Chlor	obenzal	dehyde						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
104-88-1	solid	white	N/A	87	213–214	45	1.196 @ 61	N/A	N/A	slightly soluble		
Types Hazard/Ex		Acut	e Hazards	/Sympt	toms	Prev	ention		First	t Aid/Fire		
Fire		Moderate f	ïre hazard.			No flames, no contact sufaces.		carl	Alcohol resistant foam, carbon dioxide, regular di chemical, water			
Inhalation			racheobron edema, bro nospasms.		neumonia,	Ventilation exhaust.	ı, local	imr		om exposure y; get medical		
Skin			erythema, s nyperemia, on.		, nerve	Protective clothing.	gloves an	clot	hes and roughly	ontaminated l jewelry, wash skin with		
Eyes		Strong irri	tation.			Safety gog	gles.	with rem pos	n water love con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion	Ingestion						or drink ory.	imr		ysician ly. If vomiting p head lower		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.												

Abbreviations:

				4-Chl	loroaceta	milide					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
539-03-7	powder	white	N/A	N/A	331.3– 332.4 @ 740	177–179	1.385	N/A	N/A	insoluble	
	Types of Acute Hazards/Symptoms Prevention First All Hazard/Exposure										
Fire		Low fire h under fire			c fumes	No open flames or sparks. Water spray, Carb dioxide, dry chem powder or approp foam.					
Inhalation	1	Irritant if i	nhaled.			Ventilation exhaust.	ı, local	b	Remove to fresh air. If breathing is difficult, givoxygen. Seek medical advice.		
Skin		Irritant to	skin.			Protective clothing.	gloves a	w an	ith soap	ely flush skin and copious of water for at ninutes.	
Eyes		Irritant to	eyes.			Safety gogg	gles.	w w lo	vith copi vater lifti ower lids	ely flush eyes ous amounts of ing upper and s occasionally. lical advice.	
Ingestion		May be ha	rmful if s	wallowe	ed.	Do <i>not</i> eat the laborate		n		wed wash out th water. Call a	
Carcinoge	nicity	Not a know	wn carcino	ogen.		Mutagenio	city	l N	lot a kno	own mutagen.	

			(Chloro	oacetyl C	hloride						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
79-04-9	liquid	colorless	N/A	105-106	-22	1.418	60	3.9	decomposes			
Type: Hazard/E		Acu	te Hazaro	ls/Sym _]	ptoms	Prev	ention		Fi	rst Aid/Fire		
Fire		Emits tox condition	s.			Avoid hea flames.			carbon d			
Inhalation		edema.	inhalation pasm, inf the larynx pneumoni	. Inhala lammat and br tis and	tion may ion, and onchi, pulmonary	Ventilation exhaust.	n, local		Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Harmful i Causes bu		ct with	skin.	Protective clothing.	gloves a		with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes		Harmful t	o the eyes	i.		Safety goggles.			Immediately flush eye with copious amounts water lifting upper and lower lids often. Seek medical advice.			
Ingestion		Toxic if s and/or con increase to cause, but laryngitis headache, vomiting.	nsumptior oxic effect rning sens , shortnes , coughing	ohol may osure can wheezing, ath,	Do <i>not</i> eat the laborat				wed wash out ith water. Call a 1.			
Carcinogenicity Not a known carcinogen.							city		Not a kno	own mutagen.		

Abbreviations:

				Chl	orobenze	ne					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
108-90-7	liquid	colorless	almond- like	28	132	-45	1.107	11.8 @ 25	3.9	insoluble	
	Types of zard/Exposure										
Fire	Flammable. Gives off irritating or toxic fumes (or gases) in a fire. No flames, no sparks, no contact with hot sufaces. Powder, water spray, foam, carbon dioxide										
Inhalation	Drowsiness. Headache. Nausea. Uconsciousness. Ventilation, local exhaust., or breathing protection. Fresh air, rest. Refined the medical attention.										
Skin		Redness. R	oughness.			Protective and clothi		wate cont rinse	er, then r aminate	d clothes and Refer for	
wat rem pos								wate remo	er for sev	rith plenty of veral minutes; act lenses if k medical	
Ingestion		Abdominal	pain.			Do <i>not</i> earlin the labor			e mouth	. Refer for ntion.	
Carcinogen	icity	Not a know	n carcinos	gen.		Mutageni	citv	Poss	ible mu	tagen.	

Abbreviations:

				2-Chlo	robenzo	ic acid					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
118-91-2	solid	white	N/A	173	285	138–140	1.54	0.189 @10		slightly soluble	
	es of Exposure	Acı	ute Hazard	ls/Sympt	oms	Preve	revention First Aid/Fire				
Fire		Flammab fire cond	ole. Emits titions.	toxic fum	nes under	der Avoid heat, sparks, flames. Water spray, carbo dioxide, dry chem powder or appropriate foam.					
Inhalation	1	May be i	rritating if i	inhaled.		Ventilation exhaust.	, local	1		to fresh air. If g is difficult, give	
Skin		Irritating	to the skin			Protective g clothing.	gloves a	and]	Immedia with soap amounts least 15	tely flush skin p and copious of water for at minutes. Remove nated clothing.	
Eyes		Vapor or	tating to	the eyes.	Safety gogg	gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ting upper and s often. Seek		
Ingestion		Toxic, ha	ırmful if sw	allowed.		Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a 1.	
G •	• • •						•.	Ι,	Y . 1		
Carcinoge	enicity	Not a kno	own carcino	ogen.		Mutagenic	ity	1	Not a kn	own mutagen.	

Abbreviations:

			4	-Chlor	obenzo	oic Acid				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
74-11-3	solid	colorless	N/A	238	N/A	239-241	1.541 @ 24	N/A	N/A	soluble
Types Hazard/Ex		Acut	e Hazards	Prev	ention		First Aid/Fire			
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,	carb		y chemical, xide, water, m.
Inhalation		Irritation		Ventilation exhaust.	ı, local	imn		om exposure y; get medical		
Skin		Irritation, a	bsoption m	nay occi	ır	Protective clothing.	gloves an	clot	hes and oughly	ontaminated ljewelry, wash skin with
Eyes	Irritation						gles.	with rem poss	n water ove cor	y wash eyes for several min, ntact lenses if nd seek medical
Ingestion						Do <i>not</i> eat the laborate		head	d lower lical att	occurs, keep than hips, get ention, if
Carcinogen	icity	Not a know	vn carcinoo	en		Mutagenio	rity	Not	a knou	n mutagen.

Abbreviations:

			4-0	Chlorol	benzyl	Alcohol	l				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol	
873-76-7	solid	white	N/A	N/A	234	70–72	N/A	N/A	A N/A	poorly soluble	
Types Hazard/Ex		Acu	te Hazards/	Symptor	ns	Pro	eventio	1	First Aid/Fire		
Fire		Moderate f	ire hazard.			No flame no conta sufaces.			Carbon dioxide, dry chemical powder, foam, water.		
Inhalation		May be har	rmful.			Ventilati exhaust.	on, loca	1	Remove from exposure immediately; get medical attention.		
Skin		Irritation, r through sk	may be harmin.	ful if abs	orbed	Protective clothing.		s and	clothes a	contaminated nd jewelry, nly wash skin with	
Eyes	Eyes Irritation.					Safety go	oggles.		with wat remove of possible,	hly wash eyes er for several min contact lenses if and seek medical immediately.	
Ingestion		May be har	rmful.		Do not e the labor		nk in	head low	ng occurs, keep ver than hips; get attention, if		
Carcinogen	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.										

Abbreviations:

				1-Chl	orobu	tane				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
109-69-3	liquid	colorless	unpleasant	-9	78	-123	0.89	80 @20	3.2	insoluble
	es of Exposure	Acu	te Hazards/S	Sympton	ns	Prev	ention		First	Aid/Fire
Fire			mmable. Giv mes (or gase			No flames, no contact sufaces.			der, A	FFF, foam, kide.
Inhalation	l	Cough. Dr	owsiness. S	ore throa	ıt.	Local exha	ust.		h air, r	est. Refer for ention.
Skin		Redness.				Protective clothing.	gloves an	clot	hes. Ri	ntaminated nse skin with ater or shower.
Eyes			Safety gog	gles.	reme poss	er for se ove cor	with plenty of everal minutes; ntact lenses if eek medical			
Ingestion		Abdomina	l cramps. Na	nusea.		Do <i>not</i> eat the laborate			se mout lical att	h. Refer for ention.
Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.										

Abbreviations:

			α-Chle	oro-2,6	-dimeth	ylacetanil	lide					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
1131-01-7	solid	white	N/A	N/A	N/A	150–151	N/A	N/A	N/A	insoluble		
Types Hazard/Ex		Acu	te Hazard	ls/Sympt	toms	Preve	ention		First Aid/Fire			
Fire		Flammabl fire condit		oxic fum	es under	Avoid heat flames.	, sparks		Dry chen carbon d	nical, foam, or loxide.		
Inhalation		ırmful if	inhaled.	Ventilation exhaust.	, local	1	Remove to fresh air. If breathing is difficult, g oxygen.					
Skin		Irritating, through th		rmful if	absorbed	Protective g clothing.	gloves a		with soap amounts least 15 p	tely flush skin o and copious of water for at ninutes. Remove ated clothing.		
Eyes	Eyes Irritating, may be harmful to the eyes.						gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion		Harmful it	f swallowe	ed.		Do <i>not</i> eat the laborate				wed wash out ith water. Call a 1.		
Carcinogeni	city	Not a know	wn carcino	ogen.		Mutagenio	eitv]	Not a kno	own mutagen.		

Abbreviations:

			2-C	hloro	-2-meth	ylbutane						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
594-36-5	liquid	colorless	N/A	-9	85–86	-73	0.866	N/A	N/A	slightly soluble		
Type: Hazard/E		Acut	e Hazards	/Sympt	oms	Prev	ention		First Aid/Fire			
Fire SEVERE fire hazard. Vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. Alcohol resistant carbon dioxide, rechemical, water												
Inhalation		Irritation, n	arcotic			Ventilation exhaust.		om exposure y; get medical				
Skin		Irritation, c depression	entral nerv	ous sys	stem	Protective clothing.	gloves an	clo	thes and roughly	ontaminated l jewelry, wash skin with		
Eyes Irritation						Safety gog	gles.	with rem pos	h water nove con	y wash eyes for several min ntact lenses if nd seek medica		
Ingestion		Narcotic				Do <i>not</i> eat the laborat		hea me	d lower	g occurs, keep than hips; get ention, if		
Carcinogen	icity	Not a know	n carcinog	en.		Mutagenie	city	Not	a knov	n mutagen.		

Abbreviations:

				Chl	orofor	m				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
67-66-3	liquid	colorless	sweet	N/A	60.5- 61.5	-63	1.492	160 @ 20	4.12	0.82% @ 20
Types Hazard/Ex		Acut	e Hazards	/Sympton	ms	Prev	ention		First	Aid/Fire
Fire		Negligible	fire hazard	l .		N/A Regular dry chemic regular foam, water				
Inhalation		Irritation, of depression excitation headache, and vomiti	may be pro and inebria fatigue, sal	iness,	Ventilation exhaust.	ı, local	imn		om exposure y, get medical	
Skin		Inflammate epithelium absorption weight loss changes.	, moderate possible, 1	necrosis; resulting i	some	Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with
Eyes		ness,	Safety gog	gles.	with rem poss	Thoroughly wash ey with water for sever remove contact lens possible, and seek n attention immediate				
Ingestion		Burning of esophagus, vomiting, cramps, irr respiratory	, and stoma diarrhea, cy egular resp	nch, nause yanosis, n piration,	nuscle	Do <i>not</i> eat the laborat		head	l lower ical att	occurs, keep than hips; get ention, if
Carcinogeni	Carcinogenicity Suspect carcinogen. Mutagenicity Possible mutagen.									

Abbreviations:

			(Chlor	oplatinic	Acid					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
16941-12- 1	solid	brownish- yellow	odorless	N/A	115	60	2.43	N/A	18	very soluble	
Types Hazard/E		Acute	e Hazards	s/Symp	otoms	Preve	ention		First Aid/Fire		
Fire		Not conside	ered to be	a fire h	nazard.	Keep away and other co metals.			Water spray, carbon dioxide, or dry powder.		
Inhalation		Exposure ca affecting th Irritation an in the nose. Symptoms coughing, t shortness of pronounced	e nose, sk id even uld May caus include wl ightness of breath, c	in and cers can see plati heezing of the coyanosis	lungs. n develop inosis. g, hest, s, and	Ventilation exhaust., or protection.		brea resp diffi	thing, gi iration. l	resh air. If not ve artificial If breathing is e oxygen. Get ntion.	
Skin		May cause include sevo urticaria, ito cause skin a	ere irritation ching, and	on, ecz	ema,	Protective g clothing.	gloves and	with wate cont shoe	plenty or. Remo	d clothing and	
Eyes		May cause conjunctiva			g, and	Safety gogg	gles.	with least lowe occa	plenty of the pl	flush eyes of water for at utes, lifting oper eyelids . Get medical mediately.	
Ingestion		May cause vomiting and bloody diarrhea.				Do <i>not</i> eat the laborate		imm med		as directed by sonnel. Get	
Carcinogeni	citv	Not a know	n carcinos	gen.		Mutagenici	itv	Poss	ible mu	tagen.	

Abbreviations:

			(Chloros	ulfoni	e Acid				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
7790-94-5	liquid	colorless	pungent	N/A	158	N/A	1.753	1 @ 20	4.02	reacts
Types Hazard/Ex		Acut	te Hazards	/Symptor	ns	Preve	ention		First	Aid/Fire
Fire		Negligible with water		l., reacts v	, reacts violently N/A					xide, regular al.
Inhalation Severe mucous membrane irritation, coughing, choking, headache, dizziness and weakness. Ventilation, local exhaust. Remove from immediated immediated attention.										
Skin			tation, pair or yellowis		nd	Protective sclothing.	gloves ar	cloth thore water	nes and oughly er, get i	ntaminated jewelry, wash skin with nedical nmediately.
Eyes Corneal and conjunctival edema, iritis, corneal erosion and opacity, pain, blurred vision, and photophobia. Thorwork goggles. Thorwork gog						water ove con ible; se ntion in	wash eyes for several min, ntact lenses if eek medical nmediately, and wash eyes			
allow vomiting when vomiting w						y; give large water or milk; ting to occur;				
Carcinogeni	city	Not a know	vn carcinos	gen.		Mutagenio	eity	Not	a know	n mutagen.

Abbreviations:

			•	Chron	nic Anhydı	ride						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
1333-82-0	solid	dark red	odorless	N/A	decomposes	197	2.7	N/A	N/A	63 g/100 mL		
Types Hazard/Ex		Acut	te Hazard	ls/Sym	ptoms	Prev	ention		First	Aid/Fire		
Fire		Not combustion reactions m	of other s	substan	ices. Many	No conta combusti substance reducing	ble es and		Powder, water spray, foam, carbon dioxide.			
Inhalation		Cough. Lab			Shortness of ng.	fine dust	on (not if	. med	h air, re ical atte	st. Refer for ntion.		
Skin		Redness. S	Protectiv and cloth		clot	hes. Rin	staminated se skin with tter or shower.					
Eyes		Redness. Povision. Seve	Safety go	oggles.	wate (rem	with plenty of veral minutes tact lenses if ble), then take						
Ingestion		Abdominal	Do <i>not</i> earling the lab		indu plen Refe	ice vom	n. Do <i>not</i> iting. Give iter to drink.					
Carcinogenio	city	Known card	cinogen.			Mutagen	icity	Poss	ible mu	tagen.		

Abbreviations:

			(Cinn	amaldehy	⁄de				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
104-55-2	oily liquid	yellowish	cinnamon	71	248	-80	1.05	0.03 @ 25	4.6	slightly soluble
Type Hazard/I		Acu	te Hazards/	Symp	otoms	Prev	ention		First A	Aid/Fire
Fire		Combustib exposed to	ole liquid. Fi heat or flan	re haz ne.	zard when	No flames sparks, no with hot s	contact	Dry carb	chemica on dioxi	ıl, foam, or de.
Inhalation			tation to the may includ of breath.			Ventilatio exhaust.	brea resp diffi	Remove to fresh air. If n breathing, give artificial respiration. If breathing difficult, give oxygen. C medical attention.		
Skin		include red	itation to sk lness, itchin gic reaction s.	g, and	l pain. May	Protective and clothi		cloth soap wate minu atter	ning. Wa or mild or for at lates. Get ation if it	contaminated ash skin with detergent and least 15 medical rritation persists.
Eyes	Eyes Causes irrita				nd pain.	Safety goş	ggles.	with least lowe occa	plenty of the pl	flush eyes of water for at utes, lifting oper eyelids . Get medical mediately.
Ingestion		May cause diarrhea.	vomiting a	Do <i>not</i> ea in the labo		indu large	ce vom e quantit	I, do <i>not</i> iting. Give ies of water. attention.		
Carcinogen	nicity	Not a know	vn carcinoge	en.		Mutageni	citv	Poss	ible mu	tagen.

Abbreviations:

				trans-	Cinnami	c Acid						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
140-10-3	solid	white	N/A	N/A	300	132–135	1.248	N/A	N/A	0.446 g/L		
	es of Exposure	Acı	ute Hazard	ls/Symp	toms	Preve	ention		First Aid/Fire			
Fire	•	Flammat fire cond	ole. Emits titions.	mes under	Avoid heat flames.	, sparks	C I	lioxide,	ray, carbon dry chemical or appropriate			
Inhalation	1	Irritant, r	nay be harn	nful if in	haled.	Ventilation exhaust.	, local	ł	Remove to fresh air. If breathing is difficult, giv oxygen.			
Skin		Irritant, r	nay be harr	nful to t	he skin.	Protective § clothing.	gloves a	\ a 1	with soap amounts east 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes Vapor or mist is irritating to the eyes, may be harmful.							gles.	I \ \ 1	mmedia with cop water lift	tely flush eyes ious amounts of ting upper and s often. Seek		
Ingestion		May be h	armful if s	wallowe	d.	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a n.		
Carcinoge	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.											

Abbreviations:

			<i>N</i> -(Cinnam	nyl- <i>m</i> -n	itroanilin	e					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
22774-96-5	solid	N/A	N/A	N/A	N/A	115	N/A	N/A	N/A	insoluble		
Types Hazard/Ex		Acu	ite Hazaro	ls/Sympt	toms	Prev	ention		First Aid/Fire			
Fire		NA*				Avoid hear flames.	t, sparks	C I	dioxide,	ray, carbon dry chemical r appropriate		
Inhalation	Inhalation NA*					Ventilation exhaust.	ı, local	ł	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		NA*		Protective clothing.	gloves a	1 1	with soap amounts least 15 1	tely flush skin o and copious of water for at minutes. Remove lated clothing.				
Eyes	yes NA*					Safety gog	gles.] \ \ 1	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion	Ingestion NA*					Do <i>not</i> eat the laborat		1		wed wash out ith water. Call a 1.		
Carcinogenicity N/A*						Mutagenio	city	N	N/A*			

^{*} Toxicological information for the listed chemical is *not* available; refer to **aniline** and *m*-nitroaniline.

Abbreviations:

			N-Cin	namyli	idene- <i>n</i>	<i>ı</i> -nitroani	line				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
22856-77-5	solid	N/A	N/A	N/A	N/A	92	N/A	N/A	N/A	insoluble	
Types Hazard/Ex		Acı	ite Hazard	ls/Sympt	toms	Prev	ention		First Aid/Fire		
Fire		NA*				Avoid hea flames.	t, sparks	1	dioxide,	ray, carbon dry chemical r appropriate	
Inhalation	Inhalation NA*					Ventilation exhaust.		to fresh air. If g is difficult, give			
Skin		NA*				Protective clothing.	gloves a	1 1	with soar amounts least 15 1	tely flush skin o and copious of water for at minutes. Remove lated clothing.	
Eyes	Eyes NA*					Safety gog	gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek	
Ingestion NA*						Do <i>not</i> eat the laborat		1		wed wash out ith water. Call a	
Carcinogenicity NA* Mutagenicity							city	N	NA*		

^{*} Toxicological information for the listed chemical is *not* available; refer to **cinnamaldehyde** and *m*-nitroaniline.

Abbreviations:

					Citral							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
5392-40-5	liquid	colorless	sharp lemon- like	90	207	N/A	0.88	N/A	N/A	insoluble in water		
Type Hazard/E		Acute	Hazards	/Symp	toms	Prev	ention		First Aid/Fire			
Fire		Not conside	ered a fire	hazard.		Keep away flames and		cher	Carbon dioxide, dry chemical, Universal-Type Foam.			
Inhalation		May be irri	tating if ir	ihaled.		Ventilation exhaust.	or local	to fr	Remove from the exposuto fresh air. Contact a physician as necessary.			
Skin		May be irri	tating to s	kin.		Protective clothing.	gloves and	clotl affect with least	ning or seted area soap and the	contaminated hoes. Wash s thoroughly d water for at utes. Contact as necessary.		
clean					n water i utes. Co	diately with for at least 15 ntact a nmediately.						
Ingestion		May be har	mful if sw	allowe	d.	Do <i>not</i> eat the laborat		Con	e water t tact a ph ediately			
		1					_	1		_		
CarcinogenicityNot a known carcinogen.MutagenicityNot a known mutagen.							mutagen.					

Abbreviations:

				Cupr	ric Ace	tate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
6046-93-1	solid	green	N/A	N/A	N/A	250 (dec)	1.882	N/A	6.9	7.2%	
Types Hazard/Ex		Acut	te Hazards	s/Sympton	ms	Preve	ention		First	Aid/Fire	
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,	carb	Regular dry chemical, carbon dioxide, water, regular foam.		
Inhalation		breath, dig illness sim	t, coughing gestive disconilar to the ations of ch	rders, fev	er, and cold,	Ventilation exhaust.	, local	imn		om exposure y; get medical	
Skin		Redness, p	oain, and ir	Protective g	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with			
Eyes		possibly c	oain, blurre onjunctivit s, and turbi	Safety gogg	gles.	with rem poss	water ove consible, an	wash eyes for several min tact lenses if d seek medical mediately.			
Ingestion		Sore throat, salivation, abdominal pain, vomiting, diarrhea, and hemorrhagic gastritis.			Do <i>not</i> eat the laborate		vom	niting o	or milk; if ecurs, keep than hips.		
<u> </u>	•,	- 				lag .	•.	lar :			
Carcinogeni	city	Not a know	wn carcino	gen.		Mutagenic	eity	Not	a know	n mutagen.	

Abbreviations:

	Cupric Sulfate CAS No. PS Color Odor FP BP MP d VP VD Sol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
7758-98-7	solid	blue, (pentahy- drate)	N/A	N/A	200	3.603	N/A	N/A	14.3% @ 0				
Types of Acute Hazards/Symptoms Prevention First Aid/Fire													
Hazard/Ex	Hazard/Exposure												
Fire	Negligible fire hazard. N/A Regular dry chemical, carbon dioxide, water, regular foam												
Inhalation	Sore throat, coughing, shortness of breath, chest pain, a metallic taste, spasm, inflammation, edema of larynx and bronchi, headache, nausea, chemical pneumonitis, pulmonary edema, and laryngitis. Corrosive to mucous membranes. Ventilation, local exhaust. Remove from exp immediately; get in attention.												
Skin		papulovesi	oain, itchin cular and e	czematoic	l	Protective clothing	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with			
Eyes Irritation, redness, pain, blurred vision, and corrosive to eyes. Copper deposition in the cornea. Safety goggles. Thoroughly wash eyes with water for several remove contact lenses possible, and seek mediattention immediately.									for several min, tact lenses if ad seek medical				
Ingestion		discolorati	t, gastroent on of gum: rhesis, brai tion.	s and tong	gue,	Do <i>not</i> ea the labora		vom head imn	niting od d lower	or milk; if ecurs, keep than hips; seek medical			
Carrie	•4	NI. 1				M-4 '		l n	. 11. 1				
Carcinogenio	nty	inot a knov	vn carcinoş	gen.		Mutageni	CILY	Pos	sible m	utagen.			

CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point Abbreviations: (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD = vapor density relative to air (1.0); Sol = solubility in water; N/A = not available or not

applicable.

Cyclododecanol CAS No. PS Color Odor FP BP MP d VP VD Sol													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VF	VD	Sol			
1724-39-6	solid	white	N/A	N/A	125 @ 12 torr	77–78	0.961	N/A	N/A	slightly			
Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure													
Fire Slight fire hazard. No flames, no sparks, no contact with hot sufaces. Regular dry chemical, carbon dioxide, water, regular foam													
Inhalation No specific data available, possibly central nervous system depression. Ventilation, local exhaust. Remove from exposure immediately; get medical attention.													
Skin		Irritation, allergic de	possibly skin ermatitis.	absorpt	ion and	Protective		s and	clothes a	contaminated and jewelry, ally wash skin with			
Eyes Irritation. Safety goggles. Thoroughly wash eyes with water for several min remove contact lenses if possible, and seek medical attention immediately.													
Ingestion			c data availab vous system			Do not e the labor		nk in	head low	ng occurs, keep ver than hips; get attention, if			
Carcinogen	icity	Not a know	wn carcinogei	1.		Mutage	nicity		Not a kn	own mutagen.			

Abbreviations:

				Cyclod	lodeca	none				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
830-13-7	830-13-7 solid white N/A 118 106 60 0.906 0.8 @ 20									45 ppm @ 20
Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure										
Fire Slight fire hazard. Avoid heat, sparks, flames. Regular dry chemical, carbon dioxide, water, regular foam										
Inhalation No signs of toxicity reported. Ventilation, local exhaust. Remove from exposimmediately, get me attention.										
Skin		Irritation.				Protective clothing.	gloves ar	clot	hes and roughly	ontaminated l jewelry, wash skin with
Eyes Irritation. Safety goggles. Thoroughly wash with water for sev remove contact le possible, and seek attention immedia								for several min, ntact lenses if nd seek medical		
Ingestion		N/A				Do <i>not</i> eat the laborat		hea med	d lower	g occurs, keep than hips; get ention, if
Carcinogeni	city	Not a know	wn carcino	gen.		Mutageni	city	Not	a know	n mutagen.

Abbreviations:

				Cyc	lohexa	ne					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
110-82-7	liquid	colorless	sweet	6.5	0.779	95 @ 20	2.90	insoluble			
Types of Acute Hazards/Symptoms Prevention First Aid/Fi											
Fire SEVERE fire hazard., moderate explosion hazard, vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. Regular dry chemical carbon dioxide, water cooling, regular foam											
Irritation, central nervous system depression with headache, dizziness, dullness, nausea, vomiting, degenerative changes in the heart, lungs, liver, kidneys, and brain. Ventilation, local exhaust. Remove from experimental exhaust. Remove from experimental exhaust.											
Skin		Irritation, 1	edness, and	d dryness		Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with	
Eyes Irritation, tearing, redness, and conjunctivitis. Safety goggles. Thoroughly wash on with water for sever remove contact len possible, and seek attention immediate.								for several min, ntact lenses if and seek medical			
Ingestion		Central neaspiration pneumonit	may result			Do <i>not</i> eat the laborat		or n	nilk; if	ysician y. Give water vomiting p head lower	
Carcinogeni	Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.										

Abbreviations:

			Cyclohexa	ane- <i>cis</i>	-1,2-di	carboxy	lic Aci	d		
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	• VD	Sol
610-09-3	solid	white	N/A	N/A	N/A	193– 195	N/A	N/A	A N/A	slightly soluble
Types Hazard/Ex	Acut	Pro	eventior	1	Fi	rst Aid/Fire				
Fire Slight fire hazard. Avoid heat, flames, sparks Regular dry chemical, carbon dioxide, water, regular foam.										lioxide, water,
									from exposure ately; get medical	
Skin		Irritation.				Protective clothing.		s and	clothes a	contaminated and jewelry, hly wash skin with
Eyes Irritation. Safety goggles. Thoroughly wash eye with water for several remove contact lense possible, and seek me attention immediately								ter for several min, contact lenses if , and seek medical		
Ingestion		N/A				Do <i>not</i> e the labor		nk in	head lov	ing occurs, keep ver than hips; get attention, if
Carcinogen	arcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									

Abbreviations:

	cis-1,2-Cyclohexanediol CAS No PS Color Odor FP BP MP d VP VD Sol													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol				
1792-81-0	solid	white	N/A	N/A	117@14	99-101	1.183	N/A	A N/A	soluble				
	pes of Exposure	Acı	ute Hazard	ls/Symp	toms	Prevention First Aid/Fir								
Fire		or by con	ible at elevantact with a sic fumes unas.	Avoid heat flames.	, sparks		dioxide,	ray, carbon dry chemical or appropriate						
Inhalation	n	Irritant to	respiratory	y system		Ventilation exhaust.	, local		breathing oxygen.	to fresh air. If g is difficult, give Get medical immediately.				
Skin		Irritant to	skin.			Protective clothing.	gloves a		with soap	tely flush skin o and copious of water for at minutes.				
Eyes Irritant to eyes. Safety goggles.									with cop water, lif lower lid	tely flush eyes ious amounts of ting upper and s occasionally. dical advice.				
Ingestion		May be h	armful if sv	wallowe	d.	Do <i>not</i> eat the laborate				wed, wash out ith water. Call a n.				
Carcinoge	arcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.													

Abbreviations:

				Cycl	ohexai	nol								
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol				
108-93-0	liquid	colorless	pungent	67	160	20–22	0.948	1.0 @ 21						
Types of Acute Hazards/Symptoms Prevention First Aid Hazard/Exposure										Aid/Fire				
Fire Moderate fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot sufaces. Regular dry chemical, carbon dioxide, water regular foam, alcohol resistant foam.										xide, water, m, alcohol				
Inhalation Irritation, central nervous system depression, dizziness, drowsiness, headache, nausea, and vomiting. Ventilation, local exhaust. Remove from expoint immediately; get immediate medical attention.									y; get					
Skin		absorption system de	defatting of may lead to pression, he drowsiness	o central i adache,	nervous	Protective clothing.	gloves an	clotl	hes and oughly	ntaminated jewelry, wash skin with				
Eyes Irritation, redness, pain. Safety goggles. Thoroughly wash with water for sew remove contact let possible, and seek attention immedia							for several min, ntact lenses if nd seek medical							
Ingestion		diarrhea, c depression	coughing, a entral nervo , headache, drowsiness	ous systen weakness	n 5,	Do <i>not</i> eat the laborate		head imm	l lower	occurs, keep than hips; get medical				
Carcinogeni	icity	Not a know	wn carcinos	gen.		Mutagenio	eity	Poss	sible m	utagen.				

Abbreviations:

				Cyclo	hexan	one				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
108-94-1	liquid	colorless	minty, sweet	46	155	-47	0.947	2 @ 20	3.4	slightly soluble
Types Hazard/Ex		Acut	e Hazards	Prev	vention		First	t Aid/Fire		
									bon dio	sistant foam, xide, regular dry
								om exposure y, get medical		
Skin		hypnotic s	ourns, laborigns, defatt and peritor	ing,	_	Protective clothing.	gloves ar	clo tho	thes and	ontaminated l jewelry, wash skin with
remove cont							for several min, ntact lenses if nd seek medical			
Ingestion		depression	central ner , dullness, and uncons	gastrointe	estinal	Do <i>not</i> ea the labora		or occ	milk; if	ysician y. Give water vomiting p head lower
Carcinogeni	Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.									

Abbreviations:

	Cyclohexanone Semicarbazone												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
1589-61-3	solid	1.223	NA	NA	6 g/L								
Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure													
Fire Flammable, emits toxic fumes under fire conditions.* Flammable, emits toxic fumes under flames. Avoid heat, sparks, flames. Water spray, carbon dioxide, dry chemical powder or appropriate foam.													
Inhalation May be harmful if inhaled.* Ventilation, local exhaust. Remove to fresh air. If breathing is difficult, give oxygen.													
Skin		May be irr	itating to	the skin	.*	Protective clothing.	gloves a	1 1	with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove nated clothing.			
Eyes Dust, vapor, or mist may be irritating to the eyes.* Safety goggles. Immediately flush eyes with copious amounts of water lifting upper and lower lids often. Seek medical advice.										tely flush eyes ious amounts of ing upper and s often. Seek			
Ingestion		May be ha	rmful if sv	vallowe	d. *	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a 1.			
Carcinogen	icity	Not a know	vn carcino	gen*		Mutagen	icity	1	Not a kno	own mutagen.*			

^{*} Toxicological information for the listed chemical is *not* available. Information given pertains to **acetone semicarbazone** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations: CAS No. = Ch

				Cycl	ohexe	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
110-83-8	liquid	colorless	sweet	-20	82	-104	0.8102	67 @ 20	2.8	insoluble
Types of Acute Hazards/Symptoms Prevention Find Hazard/Exposure								First	Aid/Fire	
Fire SEVERE fire hazard., vapors or gases may ignite at distant ignition sources. NO flames, NO carbon dioxide, regular chemical, water.										
Irritation, central nervous system depression, headache, dizziness, drowsiness, labored breathing, and kidney and liver damage. Ventilation, local exhaust. Remove from experimentation, local exhaust. Remove from experimentation immediately, keep and at rest. get mediately attention immediately.									y, keep warm get medical	
Skin		Defatting of burning se	of the skin, nsation.	redness, a	and	Protective g clothing.	gloves an	clotl	nes and oughly	ntaminated jewelry, wash skin with
Eyes Redness and irritation. Safety goggles. Thoroughly wash of with water for sever remove contact ler possible, and seek attention immediate.							for several min, ntact lenses if and seek medical			
Ingestion		nervous sy	oored breat estem invol	vement,		Do <i>not</i> eat the laborate		head		
Carcinoge	nicity	Not a know	vn carcinog	gen.		Mutagen	icity	Not	a know	n mutagen.

Abbreviations:

		4.	-Cyclohex	ene- <i>ci</i>	s-1,2-d	icarbox	ylic Ac	id				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	VD	Sol		
935-79-5	solid	colorless	N/A	N/A	N/A	103– 104	N/A	N/A	/A N/A partially so			
Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure										rst Aid/Fire		
Moderate fire hazard. No flames, no sparks, no contact with hot sufaces. Regular dry chemical, carbon dioxide, water, regular foam.												
Inhalation Sore throat and coughing.* Ventilation, local exhaust. Remove from exposure immediately; get medicate attention.									itely; get medical			
Skin		Irritation.*				Protective clothing.		s and	clothes a	contaminated and jewelry, aly wash skin with		
Eyes Redness, pain, and irritation.* Safety goggles. Thoroughly wash eyes with water for several mir remove contact lenses if possible, and seek medica attention immediately.								er for several min contact lenses if , and seek medical				
Ingestion		Irritation of spasms.*	the throat ar	ıd abdor	minal	Do <i>not</i> e the labor		nk in	head lov	ing occurs, keep wer than hips; get attention, if		
Carcinogen	arcinogenicity Not a known carcinogen.* Mutagenicity Not a known mutagen.*											

^{*}Toxicological information for the listed chemical is *not* available. Information given pertains to **phthalic acid** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

			1	,3-Cy	yclopent	adiene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
542-92-7	liquid	colorless	petroleum odor	25	40	N/A	0.8021	249 @ 12		insoluble	
_											
Types of Acute Hazards/Symptoms Prevention First Aid/I Hazard/Exposure											
SEVERE fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. Regular dry chemical, carbon dioxide, water, regular foam											
Inhalation Irritation, headache, dizziness, dullness, and central nervous system effects. Ventilation, local exhaust. Remove from get medical										rom exposure; al attention	
Skin		Irritation,	local rednes	s		Protective clothing.	gloves an	cl Tl w	othes an horoughl ith water	ontaminated d jewelry. ly wash skin r. Seek medical f needed.	
with water remove co possible, a								ly wash eyes for several min, ontact lenses if and seek medical mmediately.			
Ingestion		Abdomina	al pain, naus	ea		Do <i>not</i> eat the laborate		he m	ead lowe	g occurs, keep r than hips. Get tention if	
Carcinoge	enicity	Not a kno	wn carcinog	en.		Mutagenio	city	N	ot a knov	wn mutagen.	

Abbreviations:

]	Decan	edioyl Dich	lorid	e				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VI		Sol
111-19-3	liquid	color- less	pungent odor	>110	168 @ 12 torr	N/A	1.121	N/A	A N/A	A	decomposes
Hazard/	es of Exposure	Ac	ute Haza	ards/Sy	ymptoms	Prevention First Aid/F					Aid/Fire
Fire	Stight fire nazard. Avoid neat, sp. flames.						arks,	ks, Carbon dioxide, regular chemical			
Inhalatio	Irritation, coughing, choking, pain, burns, pulmonary edema, and tightness in the chest. Ventilation exhaust.						_				
Skin	and clothing.				clothes thorou water,	and jog ghly v	aminated ewelry, vash skin with edical nediately.				
Eyes	with remo possi atten conti				with w remove possible attention	ater for contact at the contact at t	wash eyes or several min, act lenses if k medical nediately, and wash eyes				
Ingestion	ı	tissues,		wing ar	oration of the nd speech may		t eat or d		or mil	iately k; if vo keep	cician Give water comiting head lower
Carcinog	enicity	Not a kı	nogen.		Muta	genicit	v	Not a l	nown	mutagen.	

			Dibas	ic Po	tassium	Phosphat	e			
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol
7758-11-4	crystals or powder	white	odorless	N/A	N/A	>465	N/A	N/A	A N/A	150 g/100 mL
Hazard/	es of Exposure	Acı	ıte Hazards	s/Symp	otoms	Preve	ention		Fi	rst Aid/Fire
and sparks						Avoid oper and sparks.				means suitable for thing surrounding
exhaust., protection					Ventilation exhaust., or protection.		ng	medical a	to fresh air. Get attention for any g difficulty.	
Skin No adverse effects expected. Protective gloves and clothing.						soap and	posed area with water. Get advice if irritation			
Eyes No adverse ef may cause me						Safety goggles.			running v	oroughly with water. Get advice if irritation
Ingestion		lethargy effects, o	ms may incl , diarrhea, b cardiac effec system effe	lood ch	nemistry	Do not eat the laborate			glasses o to dilute. were swa	wed, give several f water to drink If large amounts illowed or as occur, get advice.
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.						own mutagen.				

Abbreviations:

				o-D	ichlorobenz	zene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	7	/D	Sol	
95-50-1	viscous liquid	pale yellow	odorless	66	180	-17	1.006	1.2 to @ 2		.1	practically insoluble	
Hazard/	es of Exposure	A	cute Haza	ards/Sy	mptoms	Prevention First Aid/Fire						
Fire		Combus			sparks,	mes, <i>no</i> , <i>no</i> cont ot surfac			Powder, water spray, foam, carbon dioxide.			
Inhalation	1	throat.	exhaus	ation, lo				, rest. Refer for attention.				
Skin			s. Burning delayed. B		on. Symptoms	Protect and clo	tive glovothing.	/es	cloth plent	es. I y of r for	contaminated Rinse skin with water or shower. medical	
Eyes Redness. Pain. Safety goggles. First rinse with p water for several remove contact le easily possible. I medical attention							several minutes; contact lenses if essible. Seek					
Ingestion		Burning Vomitin		Diarrh	ea. Nausea.		t eat or d				outh. Refer for attention.	
~		T			_				-			
Carcinoge	nicity	Not a kr	nown carci	nogen.		Mutag	enicity		Poss	ible	mutagen.	

Abbreviations:

				1,2-D	ichlorob	utane					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol	
616-21-7	liquid	colorless	N/A	26	125	N/A	1.112	28	N/A	insoluble	
Type Hazard/E		Acut	te Hazard	ls/Symp	otoms	Prev	ention	ntion First Aid/Fire			
Flammable liquid. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to ignition source and flash back. No flames, no contact w surfaces.						r r					
Inhalation	Avoid breathing vapor. Harmful if inhaled. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.					, local		breathing	to fresh air. If g is difficult, give Seek medical		
Skin		Causes ski harmful if				clothing. with soar				tely flush skin p and copious of water for at minutes.	
Eyes		Causes eye	ses eye irritation. Safety goggles. Immediately flu with copious an water lifting upp lower lids occas Seek medical ad				ious amounts of ting upper and s occasionally.				
Ingestion		Harmful it exposure r sensation, laryngitis, headache,	nay includ coughing, shortness	le burning wheezing of breat	ng ng, th,	Do <i>not</i> eat the laborate		c in		wed wash out ith water.	
		1									
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.						own mutagen.					

Abbreviations: CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d =

density or specific gravity (g/mL); VP = V vapor pressure (torr) at specified temperature (°C); VD = V vapor density (g/mL); VP = V vapor density (g

				1,3-D	ichlorob	utane				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
1190-22-3	liquid	colorless	N/A	30	134	N/A	1.115	N/A	N/A	insoluble
Type: Hazard/E		Acut	te Hazard	s/Symp	otoms	Prev	ention		Fir	rst Aid/Fire
Fire		source and	conditions siderable d I flash back	. Vapo listance k.	r may to ignition	No flames, no contact surfaces.		t (chemical	lioxide, dry powder or tte foam.
Inhalation		Avoid breatinhaled. Sinclude bu wheezing, breath, heat vomiting.	Symptoms rning sens laryngitis,	s of expe sation, c , shortne	osure may coughing, ess of	Ventilation exhaust.	, local	1	breathing	to fresh air. If g is difficult, give Seek medical
Skin		Harmful if	Protective clothing.	gloves a	3	with soap	tely flush skin o and copious of water for at minutes.			
Eyes		Lachrymat	Safety goggles.			with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.			
Ingestion		Harmful if exposure n sensation, laryngitis, headache,	Do <i>not</i> eat the laborate			n If swallowed wash out mouth with water.				
Carcinogen	icity	Not a know	wn carcino	gen.		Mutagenio	city	1	Not a kno	own mutagen.

Abbreviations:

				1,4-D	ichlorob	utane								
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol				
110-56-5	liquid	colorless	NA	39	161–163	-38	1.160	NA	A NA	insoluble				
Type: Hazard/E		Acut	te Hazard	s/Symp	otoms	Preve	ention		Fi	rst Aid/Fire				
Fire		Flammabl under fire travel cons source and	conditions iderable d		no contact with hot dioxide, dry chemi									
Inhalation	ihaled.		Ventilation exhaust.	, local		breathing	to fresh air. If g is difficult, give Seek medical							
Skin		May be ha skin.	rmful if al	osorbed	through	Protective clothing.	gloves a	nd	with soap	tely flush skin o and copious of water for at minutes.				
Eyes							gles.		with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.				
Ingestion		May be ha	rmful if sv	wallowe	ed.	Do <i>not</i> eat the laborate		in		wed wash out ith water.				
G .														
Carcinogen	ıcıty	Not a know	vn carcino	ogen.	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									

Abbreviations:

				Dichlo	romet	hane					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
75-09-2	liquid	colorless	sweet	none	40	-97	1.325	400 @ 24	2.9	1.32% @ 20	
Types Hazard/Ex		Acut	e Hazards	/Sympton	ns	Prev	ention		First	Aid/Fire	
Fire		Slight fire	hazard.			Avoid hea sparks	t, flames,	Carl dry	Carbon dioxide, regular dry chemical, and water.		
Inhalation Irritation, lightheadedness, dizziness, tingling, numbness of the extremities sensation of heat, sensation of fullness in the head, drunkenness, mental confusion, nausea, headache, and fatigue.					mities, fullness al	Ventilation exhaust.	n, local	imn		om exposure y; get medical	
Skin		Irritation, jabsorption detailed in	may occur	causing e	ffects	Protective clothing.	ntaminated jewelry, wash skin with				
Eyes	Pain, and extreme irritation.					Safety gog	with rem poss	water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion		Rapid, the gastrointes hemorrhag central ner liver and k	tinal ulcera e, and unce vous syster	ntion and onsciousne n depressi	ess,	Do <i>not</i> eat the laborat		head	l lower lical att	occurs, keep than hips; get ention, if	
Carcinogenicity Known carcinogen. Mutagenicity Possible m							utagen.				

Abbreviations:

				Dicycl	openta	diene				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
77-73-6	solid	colorless	pungent	32	164– 172 dec	32-35	0.979 @ 20	1.4 @ 20	4.6	insoluble
Types Hazard/Ex		Acut	Preve	Prevention First Aid/Fire						
surfaces. chemical, wa										xide, regular dry
Inhalation Irritation of mucous membranes and upper respiratory tract, headache, vomiting, nausea, dizziness, sneezing, coughing, and narcotic effects. Ventil exhaust								imn		om exposure ly; get medical
Skin							Protective gloves and clothing. Remove contaminate clothes and jewelry, thoroughly wash ski water.			
Eyes	Eyes Irritation, smarting, redness, and pair						Safety goggles.			y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion		hemorrhag	l pain, naus ge of the kic bladder, and	lney, inte		Do <i>not</i> eat the laborate		or n	nediate nilk; if	ohysician ly. Give water vomiting p head lower
Consinger	oity	Not a lenor	un coroine	ran		Mutagonia	.:4.,	Not	o Irnov	in mutagan
Carcinogeni	city	mot a knov	vn carcinog	gen.		Mutagenic	aty	JOIL	a KHOV	n mutagen.

Abbreviations:

				Die	thylami	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol
109-89-7	liquid	colorless	fish-like	-29	55	-50	0.707	73	31 2.5	soluble
Type: Hazard/E		Acut	te Hazard	s/Symp	toms	Prev	ention		Fi	rst Aid/Fire
Fire		Flammable fire conditi considerab ignition an explode un	ons. Vapo le distance d flashbac	r may tr to source k. Con	ravel ce of tainer may	Avoid hea flames.	t, sparks,		Dry che carbon d	mical, foam, or lioxide.
Inhalation		by inhalati	on. Inhala ammation bronchi, c	ation ma , and ed hemical	ema of the	Ventilation exhaust.	n, local			to fresh air. If g is difficult, give
Skin		Harmful if Causes bur	Protective clothing.	gloves a		with soa amounts least 15	ntely flush skin p and copious of water for at minutes. Remove nated clothing.			
Eyes		Harmful to	Safety goggles.			Immedia with cop water lif	ntely flush eyes bious amounts of ting upper and ds often. Seek			
Ingestion		Toxic if sw consumption toxic effect burning ser laryngitis, headache, of vomiting.	on of alcohols. Exposunsation, when the state of the stat	nol may are can on heezing, of breatl	cause, h,	Do <i>not</i> eat the laborat				owed wash out vith water. Call a n.
Carcinogeni	city	Not a knov	vn carcino	gen.		Mutagenio	city		Not a kr	own mutagen.

Abbreviations:

			Dieth	yl Ber	nzylph	osphona	ate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	• VD	Sol		
1080-32-6	liquid	colorless	N/A	109	106– 108	N/A	1.095	N/A	A N/A	insoluble		
Types Hazard/Ex		Acu	te Hazards/S	Sympton	ns	Pr	revention	1	Fi	rst Aid/Fire		
Fire		Moderate f	ire hazard.		No flames, no sparks, no contact with hot surfaces. Carbon dioxide chemical powd water							
Inhalation		May be har	rmful.			Ventilat exhaust.	ion, loca	1	Remove from exposure immediately, get medical attention.			
Skin		Irritation, 1 through sk	orbed	Protective	ve gloves	s and	clothes a	contaminated and jewelry, ally wash skin with				
Eyes	Irritation.					Safety goggles.			with wat remove possible	hly wash eyes er for several min, contact lenses if , and seek medical i immediately.		
					Do not ethe labor	eat or dri ratory.	nk in	head lov	ing occurs, keep ver than hips; get attention, if			
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mu								own mutagen.				

Abbreviations:

				Dietl	ıyl Etl	ner					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	/P	VD	Sol
60-29-7	liquid	colorless	sweet	-40	35	-116	0.7		2 @ 20	2.6	6.9%
Types Hazard/Ex		Acut	te Hazards	s/Symptor	ns	Prev	ention			First	Aid/Fire
Fire	No flames, no sparks, no contact with hot surfaces. Alcohol resistant foan carbon dioxide, regula chemical.										
Inhalation	with drowsiness, dizziness, nausea, headache, and lowering of the pulse and body temperature.					Ventilation, local exhaust. Remove from eximmediately; ge attention.					
Skin	· ·					Protective gloves and clothing. Remove contamic clothes and jewel thoroughly wash water.					jewelry,
Eyes	yes Painful inflammation.					Safety gog	with water remove c possible,			wash eyes for several min, ntact lenses if nd seek medical nmediately.	
Ingestion		with nause dizziness;	rvous syste ea, vomitin stomach m distended, v	g, drowsii ay becom	ness, e	Do <i>not</i> eat the laborate				act phy ediatel	ysician y.
Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.											

Abbreviations:

			N,N-Di	iethyl-	2,6-dimet	hylacetan	ilide					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol		
137-58-6	solid	white	N/A	71.1	180–182 @ 4	66–69	N/A	N/.	A N/A	insoluble		
Types of Acute Hazards/Symptoms Prevention Hazard/Exposure									Fi	rst Aid/Fire		
fire conditions. flames.									Dry che carbon d	emical, foam, or ioxide.		
Inhalation	Ventilatio exhaust.	n,	local		to fresh air. If g is difficult, give							
Skin Harmful if absorbed through the skin. Protective gloves clothing.						and	with soa amounts least 15	tely flush skin p and copious of water for at minutes. Remove nated clothing.				
Eyes	yes May be irritating to the eyes. Sa							Safety goggles. Imm with wat low med				
Ingestion		Harmful if	swallowe	ed.		Do <i>not</i> eathe laborate		nk in		lowed wash out vith water. Call a n.		
Carcinogen	icity	Not a know	wn carcino	ogen.		Mutageni	city		Not a kn	own mutagen.		

Abbreviations:

	Diethylene Glycol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol			
111-46-6	viscous liquid	colorless	odorless	124	245	-6.5	1.12	1 @ 91.		infinitely soluble			
Type Hazard/E		Acut	e Hazards/	Sympt	oms	Pr	1	Fi	rst Aid/Fire				
Fire Combustible. No flames, no sparks, no contact with hot surfaces. Powder, alcohol-resi foam, water in large amounts, carbon diox										ater in large			
									immedia	from exposure tely; fresh air,			
Skin		Redness.				Protective clothing.		s and	clothes.	contaminated Rinse and then n with water and			
water for remove co								se with plenty of several minutes; contact lenses if sssible; seek attention.					
Ingestion		Dizziness.	l pain. Naus Drowsiness usness. Con	i.		Do not e the labor		nk in	slurry of in water	outh. Give a activated charcoal to drink. Refer for attention.			
Carcinogen	Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.												

Abbreviations:

]	Dimeth	yl Fun	narate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
624-49-7	solid	colorless to white	odorless	N/A	192– 193	104–107	1.37	N/A	N/A	almost insoluble
Types Hazard/Ex		Acute	e Hazards	/Sympto	oms	Preve	ention		First	Aid/Fire
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,		on diox	y chemical, kide, regular
Inhalation		Irritation,	coughing, a	nd dyspno	ea.	Ventilation exhaust.	, local	imn		om exposure y; get medical
Skin		Irritation a	nd redness.			Protective g	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with
Eyes		Irritation.				Safety gog	with rem poss	n water ove con sible, ar	y wash eyes for several min, ntact lenses if nd seek medical nmediately.	
Ingestion			non-toxic; sore throat pain.			Do <i>not</i> eat the laborate		head	d lower lical att	occurs, keep than hips; get ention, if
Carainaga	nicity	Not a know	un coroino	ron		Mutageni	oity	Not	o know	ın mutagan
Carcinoge	шисицу	inot a knov	wn carcinog	gell.		Mutageni	city	JOUL	a KNOW	n mutagen.

				Dimeth	nyl Ma	leate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
624-48-6	liquid	colorless	N/A	91	204– 205	N/A	1.152	1 @ 45.7	4.97	insoluble
Types Hazard/Ex		Acut	e Hazards	s/Sympton	ms	Prev	ention		First	Aid/Fire
Fire		Moderate f	ire hazard.			No flames, no contact surfaces.			on diox	/ chemical, kide, regular
Inhalation		Irritation, o	coughing,	and dyspn	ea.	Ventilation exhaust.	ı, local	imn		om exposure y; get medical
Skin		Irritation, r	edness, an	d pain.		Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with
Eyes		Irritation, r erosion.	in, and co	rneal	Safety gog	gles.	with rem poss	n water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.	
Ingestion	Sore throat, abdominal pain, and vomiting.						or drink ory.	or n	nilk; if	ysician y. Give water vomiting p head lower
Carcinogeni	city	Not a know	vn carcino	gen.		Mutagenio	city	Not	a know	n mutagen.

Abbreviations:

				Dime	thyl Sul	foxide					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
67-68-5	liquid	colorless	N/A	87	189	18.4	1.100	0.42	2.7	miscible	
Type: Hazard/E		Acut	te Hazard	s/Symp	toms	Preve	ention		Fi	rst Aid/Fire	
Fire		Combustil fumes und violently v heated abo formaldeh sulfur diox	er fire convith severable boiling yde, methy	iditions. al reager g point, yl merca	Can react its. When	No flames, no contact surfaces.		t di	ioxide,	ray, Carbon dry chemical or appropriate	
Inhalation		May be ha	rmful if ir	nhaled.		Ventilation exhaust.	, local	bi	reathing	to fresh air. If g is difficult, give Seek medical	
Skin		Readily at contact wi containing may carry body.	th DMSO toxic mat	solution terial. D	OMSO	Protective g clothing.	gloves a	w aı	rith soap mounts	tely flush skin o and copious of water for at minutes.	
Eyes		Causes eye	e irritation			Safety gogg	gles.	w w lo	vith cop vater lift ower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.	
Ingestion		May be ha	rmful if sv	wallowe	d.	Do <i>not</i> eat the laborate			in If swallowed wash out mouth with water.		
Carcinogenicity Not a known carcinogen. Mutagenicity N								N	lot a kno	own mutagen.	

Abbreviations:

				2,6-D	imethyla	niline				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
87-62-7	liquid	pale yellow	N/A	91	214@739	10-12	0.984	< 0.01	N/A	N/A
Type: Hazard/E		Acute	Hazard	s/Symp	otoms	Prev	ention		Fi	rst Aid/Fire
Fire	•	Combustible under fire co	nditions	. Cont	ainer may	Avoid heat flames.	, sparks	c		ray, Dry , foam, or carbon
Inhalation		Highly Toxi	c. Toxio	c by inl	halation.	Ventilation exhaust.	, local	b		to fresh air. If g is difficult, give
Skin		Toxic if in c	Protective clothing.	gloves a	v a le	with soap amounts east 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.			
Eyes		Irritating to t	Safety goggles.			mmedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek			
Ingestion Toxic if swallowed.						Do <i>not</i> eat the laborate		n p c	nouth w	wed wash out ith water person is s. Call a 1.
Carcinogenicity Possible cancinogen. Mutagenicity							ity	ı	Not a kn	own mutagen.

Abbreviations:

			2-(2,4-D	imethy	lbenzo	yl)benzoic	Acid					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
577-56-0	powder	white	odorless	N/A	N/A	116–118	N/A	N/A	N/A	insoluble		
Type Hazard/E		Acu	te Hazard	s/Sympt	coms	Preve	ention		Fi	rst Aid/Fire		
Fire		ray, dry chemical, carbon dioxide.										
Inhalation		May be ha	rmful if in	haled.*		Ventilation exhaust.	, local	1	Remove to fresh air. It breathing is difficult, goxygen.			
Skin		May irrita	te the skin.	*		Protective g clothing.	gloves a	; ;	with soap amounts least 15	tely flush skin p and copious of water for at minutes. Remove nated clothing.		
Eyes	*		Safety gogg	gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ting upper and is often. Seek					
Ingestion		May be ha	rmful if sv	vallowed	1.*	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a n.		
Carcinogen	arcinogenicity Not a known carcinogen.* Mutagenicity Not a known mutagen.											

^{*} Toxicological information for the listed chemical is *not* available. Information given pertains to **2-acetylbenzoic acid** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

	N,N-Dimethylformamide CAS No. PS Color Odor FP BP MP d VP VD Sol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
68-12-2	liquid	colorless	pungent, fishy	58	153	-61	0.94	2.7 t @ 2		miscible			
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Pro	eventio	n	Fi	rst Aid/Fire			
toxic fumes (or gases) in a fire. **no contact with hot surfaces. *No contact with oxidizing agents.** **mo contact with hot surfaces. *No contact with oxidizing agents.** **mo contact with hot surfaces. *No contact with oxidizing agents.** **mo contact with hot surfaces. *No contact with hot surfaces.** **mo contact with oxidizing agents.** **mo contact wit									alcohol-resistant ater spray, carbon				
Abdominal pain. Diarrhea. Nausea. Vomiting. Nervous agitation. Facial flushing. Alcohol intolerance. Ventilation, le exhaust., or b protection.							or brea		respiration	r, rest. Artificial on if indicated. medical			
Skin			ABSORBE Roughness.	D! Dry	skin.	Protective clothing.		s and	clothes. wash ski	contaminated Rinse and then n with water and fer for medical			
Eyes Redness. Pain. Safety goggles. First rinse with plent water for several min remove contact lense easily possible; seek medical attention.						several minutes; contact lenses if essible; seek							
Ingestion		Vomiting.	l pain. Diari Nervous ag Alcohol intol	itation	. Facial	Do <i>not</i> e the labor		nk in		outh. Refer for attention.			
Carcinogen	vicity	Not a know	wn carcinog	an		Mutager	nicity		Possible	mutagen.			
Carcinogen	псиу	TYOU & KHOV	vii carcinogi	J11.		wintage	шсиу		r ossible	mutagen.			

Abbreviations:

			4,4-Dim	ethvl-	2-cyclo	hexen-	1-one				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VF	P VD	Sol	
1073-13-8	liquid	colorless	N/A	64	72– 73.5	N/A	0.944	N/A		poorly soluble	
Types Hazard/Ex		Acut	te Hazards/S	ymptoi	ns	Prevention First Aid/Fir					
Fire		Moderate fi	re hazard.			No flam no conta surfaces	es, <i>no</i> spact with l	arks, 10t		lioxide, regular powder, foam,	
Inhalation	May be harmful						ion, loca	1		from exposure tely; get medical	
Skin		Irritation, n through ski	nay be harmf n	ul if abs	orbed	Protective	ve gloves	s and	clothes a	contaminated nd jewelry, ıly wash skin with	
Eyes	Irritation						oggles.		with wat remove of possible,	hly wash eyes er for several min, contact lenses if and seek medical immediately.	
Ingestion May be harmful						Do not e the labor	eat or dri ratory.	nk in	head low	ng occurs, keep ver than hips; get attention, if	
Carcinogen	Carcinogenicity Not a known carcinogen. Mutagenicity Possiblemutagen.										

Abbreviations:

			2,6-	Dimetl	nylnitro	benzene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
81-20-9	liquid	light yellow	N/A	87	225	14–16	1.112	N/A	N/A	insoluble		
	oes of Exposure	Acute 1	Hazards	s/Sympto	oms	Prev	ention		Fi	rst Aid/Fire		
under fire conditions. flames.									dioxide,	ray, carbon dry chemical or appropriate		
Inhalation	n	Highly toxic	if inhale	d.		Ventilation exhaust.	n, local	1	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Toxic if absorbed skin irritation		ough skir	n. Causes	Protective clothing.	gloves	; ;	with soaj amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes Harmful to the eyes. Safety gog						gles.	,	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek			
Ingestion		May be fatal:	if swallo	wed.		Do <i>not</i> ear smoke dur		k.		wed wash out ith water. Call a 1.		
Carcinoge	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.											

				1,3-D	initrobe	nzene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	PVD	Sol		
99-65-0	powder	orange	N/A	N/A	297	88–90	1.368	N/	A N/A	0.808 g/L		
Type Hazard/E		Acut	te Hazard	ls/Symp	toms	Preve	ention		F	irst Aid/Fire		
Fire		May be sh fumes und of creating explode w	er fire cor g a dust ex	ditions. plosion.	Capable	No open fla sparks.	ames or		Water spray, Carbon dioxide, dry chemical powder or appropriate foam.			
Inhalation		Highly To cumulative effects.	xic by inh	alation,		Ventilation exhaust.	, local		breathir	to fresh air. If g is difficult, give Seek medical		
Skin		May be far Causes cya delayed 2-	anosis, wh			Protective g	gloves a	ind	with soa	ately flush skin ap and copious s of water for at minutes.		
Eyes		Causes eye	e irritation			Safety goggles.			Immedi with cop water list lower list	ately flush eyes pious amounts of fting upper and ds occasionally. edical advice.		
Ingestion		Symptoms burning se wheezing, breath, hea vomiting.	nsation, c laryngitis	Do <i>not</i> eat the laborate		in		owed wash out vith water. Call a nn.				
Carcinogen	nicity	Not a know	wn carcino	ogen.		Mutagenic	eity		Possible	e mutagen.		

Abbreviations:

			3,5	-Dinit	trobenz	oic Acid						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
99-34-3	solid	white	N/A	N/A	N/A	205–207	N/A	N/A	N/A	0.1–1.0%		
Type Hazard/E		Acut	e Hazards/	/Sympt	oms	Preve	ention		First Aid/Fire			
sparks							, flames,	carb		chemical, kide, water, m		
Inhalation Irritation						Ventilation exhaust.	, local	imm	Remove from exposure immediately, get medical attention.			
Skin		Irritation				Protective g clothing.	gloves an	clotl	nes and	ntaminated jewelry, wash skin with		
Eyes	Eyes Irritation					Safety gogg	gles.	with reme poss	water	wash eyes for several min, ntact lenses if nd seek medical		
Ingestion		N/A				Do <i>not</i> eat the laborate		head	l lower ical att	occurs, keep than hips, get ention, if		
Carcinogen	icity	Not a know	vn carcinog	en.		Mutagenic	rity	Not	a know	n mutagen.		

Abbreviations:

			3,5-D	initro	obenzoy	d Chlorid	e					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
99-33-2	solid	yellow	pungent	N/A	196	69–71	1.33	9–12 @ 196	7.6– 8.0	decomposes		
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Prev	ention		First	t Aid/Fire		
Fire		Moderate 1	fire hazard.			No flames, no contact surfaces.			Regular dry chemical, regular foam.			
Inhalation	Spasm, inflammation the larynx and bronc pneumonitis, and pu					Ventilation exhaust.	Ventilation, local exhaust.			om exposure y, get medical nmediately.		
Skin		Corrosive				Protective clothing.	gloves ar	clot	hes and oughly	ontaminated l jewelry, wash skin with		
Eyes		Corrosive				Safety gog	gles.	with rem poss atte	water ove consible, gontion in tinue w	y wash eyes for several min, ntact lenses if et medical nmediatly, ashing with		
Ingestion	Corrosive					Do <i>not</i> eat the laborate		imn amo allo whe	nediatel ounts of w vomi en vomi	ysician y; give large water or milk, iting to occur; ting occurs, lower than hips.		
Carainagan	ioity	Not a Isnay	un coroines	on		Mutagenia		Not	o Iznov	in mutagan		
Carcinogen	icity	not a knov	wn carcinog	CII.		Mutagenio	лıy	not	a KIIOW	n mutagen.		

Abbreviations:

			2,4-П	Dinitro	ophenyl	hydrazin	e				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
119-26-6	solid	orange	N/A	209	N/A	N/A	N/A	N/A	A N/A	0.1-1%	
Types Hazard/E		Acut	te Hazards	/Sympt	oms	Prev	ention		First	Aid/Fire	
Fire		Severe fire hazard.	hazard., se	<i>vere</i> exp	olosion	Avoid fric and heat	tion, sho	w		water, if no ailable use dry r earth.	
Inhalation		nervous sy	cyanosis, na estem effects y, and conv	s with t	remors,	Ventilation exhaust.	n, local	in	Remove from exposure immediately, get medical attention.		
Skin		Sensitizati previously sufficient a systemic to	skin absorption dermatit exposed permounts are exposicity may acute inhal	is may ersons. l absorb occur a	occur in If ed,	Protective clothing.	gloves ar	cl th	othes and	ntaminated jewelry, wash skin with	
Eyes		Irritation .				Safety gog	ggles.	w re po	ith water move cor	wash eyes for several min, ntact lenses if nd seek medical	
Ingestion		Systemic toxicity may occur as detailed in acute inhalation.					Do <i>not</i> eat or drink in the laboratory.			coccurs, keep than hips, get ention, if	
Carcinogen	icity	Not a know	vn carcinog	en.		Mutageni	city	Po	needed. Possible mutagen.		

Abbreviations:

				1,	,4-Dioxaı	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
123-91-1	liquid	colorless	sweet	12	100-102	11.8	1.034	40	3	soluble
	es of Exposure	Acut	e Hazard	s/Symp	otoms	Preve	ention		Fi	rst Aid/Fire
Fire		m explo	osive	Avoid heat flames.	, sparks			lioxide, dry powder or ate foam.		
Inhalation	1	Harmful to	respirato	ry syste	m	Ventilation exhaust.	, local		breathing oxygen.	to fresh air. If g is difficult, give Get medical immediately.
Skin		Irritant to	skin.			Protective g clothing.	gloves a		with soap	tely flush skin o and copious of water for at minutes.
Eyes	Eyes Irritant to eyes.						Safety goggles.			tely flush eyes ious amounts of ting upper and s occasionally. dical advice.
Ingestion		Harmful if include nat weakness, and sweati	usea, vom dizziness,	iting, ar	norexia,	Do <i>not</i> eat the laborate				wed, wash out ith water. Call a n.
Carcinogenicity Probable carcinogen Mutagenicity Not a known mutager						own mutagen.				

Abbreviations:

				Diphe	enyl Et	ther						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VI	Sol		
101-84-8	solid	colorless	unpleasant	115	259	26–30	1.073	0.02 @ 2		0.0021%		
Types Hazard/Ex		Acu	te Hazards/S	Symptor	ns	Preve	ention		First Aid/Fire			
Fire		Slight fire	hazard.			Avoid heat flames.	, sparks,	c	Regular dry chemical, carbon dioxide. Water of foam may cause frothing			
Inhalation		Irritation,	nausea.			Ventilation, local exhaust.			Remove from exposi immediately, get med attention.			
Skin		Irritation.				Protective g	gloves an	c th	lothes ar	contaminated d jewelry, y wash skin with		
Eyes Irritation. Safet						Safety gogg	gles.	w re p	vith wate emove coossible,	ly wash eyes r for several min, ontact lenses if and seek medical immediately.		
Ingestion			omiting, sore			Do <i>not</i> eat the laborate		h n	ead low	ng occurs, keep er than hips; get ttention, if		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.						wn mutagen						

Abbreviations:

			:	Dipher	ıylacet	ylene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	VD	Sol	
501-65-5	solid	white	N/A	N/A	170 @ 19	59–61	N/A	N/A	A N/A	insoluble	
Types Hazard/Ex		Acu	te Hazards/	Sympton	ms	Pr	evention	1	First Aid/Fire		
Fire						No flame no conta surfaces.		Carbon dioxide, regular chemical powder, foam, water.			
Inhalation		May be ha	rmful.	Ventilati exhaust.	on, loca	1		from exposure tely, get medical			
Skin		Irritation, 1 through sk	may be harm in.	ful if abs	sorbed	Protective clothing.		s and	clothes a	contaminated and jewelry, ally wash skin with	
Eyes	yes Irritation.					Safety go	oggles.		with wat remove of possible,	hly wash eyes er for several min contact lenses if and seek medical immediately.	
Ingestion	May be harmfu.l					Do <i>not</i> e the labor		nk in	head low	ng occurs, keep ver than hips; get attention, if	
Carcinogenicity Not a known carcinogen.						Mutage	nicity		Not a kn	own mutagen.	

Abbreviations:

			Disodi	um H	ydrogei	n Phosph	nate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol		
7558-79-4	granular solid	colorless	odorless	N/A	N/A	48.1	1.7	N/A	A N/A	soluble		
Type Hazard/E		Acut	e Hazards/	Sympt	oms	Pro	eventio	n	First Aid/Fire			
Fire		Not consid	ered to be a	i fire ha	zard.	N/A			Use any means suitable for extinguishing surrounding fire.			
Inhalation		tract. Sym	irritation to ptoms may and shortnes	include	,	Ventilati exhaust., protectio	or brea		Remove to fresh air. Get medical attention for any breathing difficulty.			
Skin		May cause pain.	irritation w	rith redi	ness and	Protective clothing.		s and	Immediately flush skin with plenty of water for a least 15 minutes. Remove contaminated clothing an shoes. Get medical attention if irritation develops.			
Eyes		May cause	Safety go	oggles.		with pleast 15 upper an occasion	ately flush eyes nty of water for at minutes, lifting ad lower eyelids hally. Get medical a if irritation					
Ingestion	Ingestion		Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, heart disturbances and central nervous system effects.			Do <i>not</i> eat or drink in the laboratory.			water to	ge amounts of drink. Get attention.		
Carcinogen	icity	Not a knov		Mutager	nicity		Not a kn	own mutagen.				

Abbreviations:

				D	ry Ice					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
124-38-9	solid	white	none	none	-79	-78.5	1.56 @ -79	569 @ -82	1.52	1.6%
Types Hazard/Ex		Acut	e Hazards	/Symptoi	ns	Prev	ention		First	Aid/Fire
Fire		Negligible	fire hazard.			N/A		appı	extings opriate ounding	
Inhalation		labored brodrowsiness in blood prespiratory profuse per	e, headache eathing, wea s, mental co ressure, pul rate, visual rspiration, g	akness, onfusion, se, and I disturba general fe	increase nces, eling of	Ventilation exhaust.	n, local	imn		om exposure y; get medical
Skin			vith redness hard and w			Protective clothing.	gloves an	cloti thor wate with	hes and oughly er, warn warm	ntaminated jewelry, wash skin with n affected areas water, and get lp if needed.
Eyes		Stinging, f blurred vis	rostbite, recion.	in, and	Safety gog	ggles.	with rem poss atter cont with	water ove corsible, sention in the total water to the total water to the total water to the total water water water to the total water wat	wash eyes for several min, tact lenses if ek medical namediately, wash eyes until medical s.	
Ingestion		Frostbite.				Do <i>not</i> eat the laborat		head	l lower	occurs, keep than hips; get ention, if
Carcinogenio	city	Not a know	vn carcinog	en		Mutageni	city	Not	a know	n mutagen.

Abbreviations:

				E	thanol						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
64-17-5	liquid	colorless	alcoholic	13	78	N/A	0.7893	40 torr @ 19	1.59	soluble	
Types Hazard/Ex		Acut	te Hazards/	Symptor	ns	Prev	ention		First	t Aid/Fire	
Fire			hazard., vap at distant i			No flames, no contact surfaces.		carb	Alcohol resistant foam, carbon dioxide, regular dr chemical, water		
Inhalation		depression fatigue, di	central nerve with heada zziness, drov assitude, an ay occur.	che, stup wsiness,	or,	Ventilation exhaust.	ı, local	imm	Remove from exposure immediately; get medical attention.		
Skin			ourning, con ption may o	Protective clothing.	clotl	hes and oughly	ontaminated l jewelry, wash skin with				
Eyes		closure of	burning, st the lids, tea injury of the	ring, and		Safety gog	with reme poss	water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion		inhibitions belligerend muscular i disturbanc pulse, nau	lability, dec s, exhilaration cy, visual im ncoordination es, dilated p sea, vomitin s, and stupo	on, boast npairment on, senso oupils, rap ag, sweat	t, ry oid	Do <i>not</i> eat the laborate		head	l lower lical att	g occurs, keep than hips; get ention, if	
Carcinogeni	icity	Not a know	wn carcinog	en.		Mutagenio	city	Poss	sible m	utagen.	

Abbreviations:

				Ethy	l Acet	ate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
141-78-6	liquid	colorless	fruity	-3	76.5– 77.5	-84	0.902	73 @ 20	3	8.7%		
		1										
Types Hazard/Ex		Acute	Hazards/	Sympto	oms	Preve	ention		First Aid/Fire			
Fire			hazard., vaj at distant iş			No flames, no contact surfaces.		cart	Alcohol resistant foam, carbon dioxide, regular dry chemical, water			
Inhalation		dizziness,	neadache, co drowsiness, cotic effects usness.	shortness	s of	Ventilation exhaust.	, local	imn	Remove from exposure immediately; get medical attention.			
Skin		Irritation, r on the skir	edness, and	Protective g	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with				
Eyes		Irritation, 1 lacrimation	redness, pair 1.	Safety gog	gles.	with rem poss	n water ove con sible, ar	y wash eyes for several min, ntact lenses if nd seek medical nmediately.				
Ingestion		Sore throat, abdominal pain, diarrhea, central nervous system depression, dizziness, headache, fatigue, drowsiness, and unconsciousness.				Do <i>not</i> eat the laborate		or n	Contact physician immediately. Give water or milk; if vomiting occurs, keep head lower than hips.			
Carcinoge	nicity	Not a know	vn carcinoge	en		Mutageni	city	Pos	sible m	utagen.		

			E	thyl 4	-Aminob	enzoate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
94-09-7	solid	white	odorless	N/A	N/A	88-90	1.11	N/A	A N/A	slightly soluble		
				10					T.	4 4 3 700		
Type: Hazard/E		Acu	te Hazard	s/Symp	toms	Preve	ention		Fn	rst Aid/Fire		
Fire			ustible. En conditions		ic fumes	Avoid heat flames.	, sparks	a	Use extinguishing agents appropriate for surrounding fire.			
Inhalation		May be ha	armful if in	haled.		Ventilation exhaust.	, local	ł	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Irritating	to the skin		Protective g clothing.	gloves a	1 1	with soap amounts east 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.			
Eyes		Irritating t	o the eyes.			Safety goggles.			mmedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion		May be ha	armful if sv	wallowe	d.	Do <i>not</i> eat the laborate		r F	nouth w			
Carcinogen	icity	Not a kno	wn carcino	gen.		Mutagenic	rity		Not a kno	own mutagen.		

Abbreviations:

				Ethy	lbenz	ene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
100-41-4	liquid	colorless	distinct	22	136	N/A	0.8670	0.8670 7.1 @ 3.7 0 20				
Types of Acute Hazards/Symptoms Prevention First A								Aid/Fire				
Fire SEVERE fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. Regular dry chemica carbon dioxide, water cooling, regular foam								kide, water for				
Inhalation			tation, coug , dizziness, a			Ventilation exhaust.	ı, local	imm	ediatel	om exposure y; get medical nmediately.		
Skin		degree bur	inflammations; absorptions systemic to	on throug		Protective clothing.	gloves an	cloth thor wate	nes and oughly er, get r	ntaminated jewelry, wash skin with nedical nmediately.		
Eyes		Irritation a	nd lacrimati	on.		Safety gog	gles.	with reme poss	water ove con ible, ar	y wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion		aspiration	l pain, naus with extensi ge of lung tis	ve edema	•	Do <i>not</i> eat the laborate		imm or n	ediatel	ysician y. Give water vomiting p head lower		
Carcinoge	nicity	Possible ca	arcinogen.			Mutageni	icity	Pos	sible m	utagen.		

				Ferri	c Chlo	ride					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
10025-77-1	solid	yellow	unpleasant	N/A	280– 285	37	1.82	1	N/A	91.9% @ 20	
Types Hazard/Ex		Acu	te Hazards/S	Symptor	ns	Prev	ention		First Aid/Fire		
Fire								appı	exting opriate ounding		
Inhalation	Severe respiratory tract irritation, sore throat, cough, and labored breathing. Ventilation, local exhaust.						imn	nediatel	om exposure y, get medical nmediately.		
Skin		Severe irr	itation, pain,	and burn	ns.	Protective clothing.	gloves an	cloti thor wate	hes and oughly er, get r	ontaminated jewelry, wash skin with medical nmediately.	
Eyes	Eyes Redness, pain, blurr lacrimation, corneal					Safety gog	gles.	with rem poss atter cont with	water ove corsible, sention in	wash eyes for several min, ntact lenses if eek medical nmediately, wash eyes until medical s.	
Ingestion		watery and dehydration	al pain, prolo I then tarry d on, shock, cy n, drowsiness	liarrhea, i anosis, ra	intense apid	Do <i>not</i> eat the laborate		imm or n occu	nediatel nilk; if	ysician y. Give water vomiting p head lower	
Carcinogenicity Not a known carcinogen Mutage					Mutagania	oity	Not	a know	n mutagen.		
CarcinogenicityNot a known carcinogen.Mutagenicity						INOL	a MIUW	n mutagen.			

Abbreviations:

			Ferro	ous A	mmoniu	m Sulfa	ite					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
10045-89-3	crystals	pale blue- green	odorless	N/A	N/A	110-112	1.86	N/A	>1	26.9 g/100 mL		
Types Hazard/Ex		Acut	te Hazards/	Sympt	oms	Pro	evention	1	First Aid/Fire			
Fire		Not consid	lered to be a	fire ha	zard.	No open sparks.	flames	or	Use extinguishing agents appropriate for surrounding fire.			
Inhalation		tract. Sym	tation to the ptoms may shortness of	include	÷	Ventilation exhaust.	on, loca	1	Remove to fresh air. Get medical attention.			
Skin			itation to sk Iness, itchin			Protectiv clothing.		s and	with pl least 15 contam	iately flush skin enty of water for at 5 minutes. Remove inated clothing and Get medical on.		
Eyes		Causes irri	Safety goggles			Immediately flush eye with plenty of water for least 15 minutes, lifting upper and lower eyelic occasionally. Get mediattention.						
Ingestion		tract. Sym vomiting a small quar may cause and black	itation to the ptoms may and diarrhea titities but lan nausea, vor stool. Pink to on is a stror ning.	include . Low to the control of the	nausea, oxicity in sages diarrhea,	Do not exthe labor.		ink in	immed medica	vomiting iately as directed by l personnel. Get l attention.		
Carcinogeni	city	Not a know	wn carcinog	en.		Mutager	nicity		Not a k	nown mutagen.		

Abbreviations:

				Fh	uoren	9				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
86-73-7	solid	colorless to white	N/A	N/A	298	114–116	1.202	10 @ 146	N/A	0.2 ppm
Types Hazard/Ex		Acute	e Hazards/	Symptor	ns	Preve	ention		First	Aid/Fire
flames. carbon did regular for										chemical, xide, water, m.
Inhalation Irritation. Ventilation, local Remov										om exposure y; get medical
Skin		Irritation.				Protective g	gloves an	clotl	hes and oughly	ntaminated jewelry, wash skin with
Eyes		Irritation.		Safety gogg	with remo	Thoroughly wash e with water for seve remove contact len possible, and seek attention.				
Ingestion		Irritation.		Do <i>not</i> eat the laborate	head	l lower	occurs, keep than hips, get ention, if			
Carcinogeni	city	Not a know	n carcinog	en.		Mutagenic	itv	Not	a know	n mutagen.

Abbreviations:

				9-F	luorer	none						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
486-25-9	solid	yellow	N/A	163	342	80–83	1.13	N/A	//A N/A insolu			
Types Hazard/Ex		Acu	te Hazards/S	Symptor	ns	Pro	evention	l	Fir	rst Aid/Fire		
Fire		Moderate f	ire hazard.			No flame no conta surfaces.	ct with h	ot		ioxide, regular powder, foam,		
Inhalation		May be har	rmful.			Ventilati exhaust.	on, local		Remove from exposure immediately; get medical attention.			
Skin			umors, and n I through skir		armful	Protective clothing.			Remove contaminated clothes and jewelry, thoroughly wash skin with water.			
Eyes		Irritation.				Safety go	oggles.	:	with wate remove c possible,	nly wash eyes er for several min, ontact lenses if and seek medical immediately.		
Ingestion		May be har	rmful.			Do <i>not</i> e the labor			head low	ng occurs, keep er than hips; get attention, if		
Carcinogeni	icity	Possible ca	rcinogen.		-	Mutager	nicity	1	Not a kno	own mutagen.		

Abbreviations:

				Fl	uoresco	ein				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
2321-07-5	powder	orange- brown	N/A	N/A	N/A	320	N/A	N/A	N/A	0.05g/100g
Type Hazard/E		Acut	te Hazard	ls/Sympt	toms	Prev	vention		Fir	rst Aid/Fire
Fire		Emits toxi conditions		nder fire		No open f sparks.	lames or			ioxide, dry powder or tte foam.
Inhalation		May be ha	rmful if ir	nhaled.		Ventilatio exhaust.	n, local	1	breathing	to fresh air. If g is difficult, give Seek medical
Skin		May cause	skin irrit	ation.		Protective clothing.	gloves a		with soap	tely flush skin o and copious of water for at ninutes.
Eyes May cause eye irritation. Safety goggles.							Immedian with copi water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.		
Ingestion		May be ha	rmful if s	wallowed	1.	Do <i>not</i> ea the labora				wed wash out ith water.
Carcinogen	icity	Not a know	wn carcino	ogen.		Mutageni	city]	Not a kno	own mutagen.

Abbreviations:

				For	mic Ac	id				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
64-18-6	liquid	colorless	pungent	69	100.8	8.5	1.2	23 @ 20	1.6	miscible
Types Hazard/Ex		Acut	te Hazards/	Sympton	ns	Preve	ention		Aid/Fire	
Fire		Moderate i may ignite	Moderate fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. No flames, no sparks, no carbon dioxide, reg foam, alcohol resis foam.						kide, regular	
Inhalation		lightheade rhinitis, na dyspnea, b	throat discordiness, nause sal dischargeronchitis, prock, and dea	ea, cough ge, corros ulmonary	sion,	Ventilation exhaust.	, local	imn and	nediatel at rest,	om exposure y, keep warm get medical nmediately.
Skin		subsequen burns, blis formation,	redness, pair t dermatitis, tering, vesic and absorbe cing severe	second of second	degree keloid the	Protective clothing.	gloves an	clot thor wate	hes and oughly er, and	ntaminated jewelry, wash skin with get medical nmediately.
Eyes		inflammat conjunctiv blurred vis	lacrimation, ion of the ey itis, keratiti sion, burns, nent corneal	yes, s, pain, r tissue da	mage,	Safety gog	fety goggles. Thoroughly wash e with water for seve remove contact lens possible, seek mediattention immediate continue to wash ey with water until me help arrives.			
Ingestion		salivation, esophagus	ensation in to corrosion of , and stomace ea, diarrhea,	of the glo ch, abdor	ttis, ninal	Do <i>not</i> eat the laborate		or n	nediatel nilk; if	hysician y. Give water vomiting p head lower
Carcinogeni	icity	Not a know	wn carcinog	en.		Mutagenio	eity	Pos	sible m	utagen.

Abbreviations:

				D	-Fructo	se				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
57-48-7	solid	colorless	odorless	N/A	N/A	119–122	1.60	N/A	N/A	soluble
Types Hazard/Ex		Acut	te Hazard	s/Sympt	toms	Preve	ention		Fi	rst Aid/Fire
conditions. sparks. dioxide, dry										ray, Carbon dry chemical r appropriate
Inhalation		May be ha	rmful if in	haled.		Ventilation exhaust.	, local	1	breathing	to fresh air. If g is difficult, give Seek medical
Skin		May cause	skin irrita	ition.		Protective g clothing.	gloves a	,	with soap	tely flush skin o and copious of water for at ninutes.
Eyes May cause eye irritation.						Safety gogg	gles.	1	with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. lical advice.
Ingestion		May be ha	rmful if sv	wallowed	d.	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a 1.
Carcinogen	icity	Not a know	wn carcino	gen.		Mutagenic	ity]	Not a kno	own mutagen.

Abbreviations:

				2-F	Turaldeh	yde						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
98-01-1	liquid	light yellow	N/A	58	162	-36	1.160	1.7	3.31	77.833 g/L		
	pes of Exposure	Acı	ute Hazard	s/Sympt	toms	Prev	ention		First Aid/Fire			
Fire		Combust fumes un	ible liquid. der fire cor	Emits aditions.	toxic	Avoid hea flames.	t, sparks		Carbon dioxide, dry chemical powder or appropriate foam.			
Inhalation	n	vapor. M inhalation burning s wheezing breath, he	inhalation. Iay cause so n. Sympton sensation, c g, laryngitis eadache nau se nervous s ces.	ensitizati ns may i oughing, shortne isea and	on by nclude sss of	Ventilation exhaust.	n, local	1	breathing	to fresh air. If g is difficult, give Seek medical		
Skin		burns an with cont	contact wit d may caus act. May c and photos	Protective clothing.	gloves a	· · · · · · · · · · · · · · · · · · ·	with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove lated clothing.				
Eyes		Irrritant a	and causes b	ourns.		Safety goggles.			Immediately flush of with copious amou water lifting upper lower lids often. Se medical advice.			
Ingestion		include b wheezing breath, he	swallowed. ourning sens g, laryngitis eadache nau se nervous s ces.	oughing, ess of	Do not eat the laborat				wed wash out ith water. Call a 1.			
Carcinoge	enicity	Possible	carcinogen			Mutageni	city] 1	Not a kny	own mutagen.		
Carcinoge	cincity	1 0001010	carcinogon			Muagem	city	1	i ioi a KII	mi maagen.		

			2-Fur	aldeh	yde Sem	icarbazoı	1e			
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
2411-74-7	solid	off-white	odorless	N/A	N/A	202	N/A	N/A	N/A	poorly soluble
Types Hazard/Ex		Acut	e Hazard	s/Sympt	toms	Prev	ention		Fin	rst Aid/Fire
Fire Flammable, emits toxic fumes under fire conditions.* Avoid heat, sparks, flames. Water spray, carbon dioxide, dry chemic powder or appropriation.										
Inhalation May be harmful if inhaled.* Ventilation, local Ren										to fresh air. If g is difficult, give
Skin		May be irr	itating to t	he skin.	*	Protective clothing.	gloves a	\ a 1	with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove lated clothing.
Eyes		Dust, vapo to the eyes		may be	irritating	Safety gogg	gles.] \ \ 1	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek
Ingestion		May be ha	rmful if sw	allowed	d. *	Do <i>not</i> eat the laborate	0. 0	1		wed wash out ith water. Call a
Carcinogen	arcinogenicity Not a known carcinogen.* Mutagenicity Not a known mutagen.*									

^{*} Toxicological information for the listed chemical is *not* available. Information given pertains to **acetone semicarbazone** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations: CAS N

				D	-Glucos	e						
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol		
50-99-7	crystals or powder	colorless or white	N/A	83	1.56	N/.	A N/A	1 g/1.1 mL				
	pes of Exposure	Acut	e Hazards/	Sympt	oms	Prev	ention		First Aid/Fire			
Fire		Not consid	ered to be a							means suitable for shing surrounding		
Inhalatio	n	No adverse from inhal	e health effe ation.	cts exp	ected	Ventilation exhaust., o	r breathir			ected to require measures.		
Skin		Not expect	ed to be a h exposure.	ealth h	azard	Protective clothing.	gloves ar			ected to require measures.		
Eyes		No adverse may cause			Safety goggles.			running v	oroughly with water. Get advice if irritation			
Ingestion			y large oral dosages may gastrointestinal disturbances.			Do <i>not</i> eat the laborat			water to large am	eral glasses of drink to dilute. If ounts were ed, get medical		
Carcinogo	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.											

Abbreviations:

tr	ris-[3-(H	leptaflu c	oropropy	lhydro	xymethy	ylene)-(+)-	campl	hora	to]euro	pium		
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
34788-82-4	solid	yellow	N/A	N/A	N/A	156–158	N/A	N/A	A N/A	N/A		
Types Hazard/Ex		Acı	ite Hazaro	ds/Sympt	toms	Preve	ention		Fir	rst Aid/Fire		
Fire		Flammab fire condi	le. Emits tions.	toxic fun	nes under	Avoid heat flames.	, sparks		Water spray, carbon dioxide, dry chemical powder or appropriate foam.			
Inhalation		May be h	armful if ii	nhaled.		Ventilation exhaust.	, local	1	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		May irrita	ate skin.			Protective § clothing.	gloves a	; ;	with soar amounts least 15 1	tely flush skin o and copious of water for at minutes. Remove ated clothing.		
Eyes		Vapor or eyes.	mist may l	Safety gogg	gles.		Immedia with copi water lift	tely flush eyes ious amounts of ing upper and s often. Seek				
Ingestion		May be h	armful if s	wallowed	1.	Do <i>not</i> eat the laborate				wed wash out ith water. Call a n.		
Carcinogeni	city	Not a kno	own carcino	ogen.		Mutagenic	ity		Not a kno	own mutagen.		

Abbreviations:

				I	Heptane	:					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
142-82-5	42-82-5 liquid colorless mild, agasoline-like -4 91 -91 0						0.697	40 to @ 20		insoluble	
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Pr	evention	1	First Aid/Fire		
Fire		Severe fire	hazard			No flam no conta surfaces.	ct with I			AFFF, foam, ioxide. NO water.	
Inhalation Dullness. Headache. Ventilatie exhaust.								1	Fresh air, rest. Refer medical attention.		
Skin		Dry skin.				Protective clothing		s and	clothes. wash ski soap. Re attention gloves a	contaminated Rinse and then n with water and fer for medical . Wear protective nd clothing. when ering first aid.	
Eyes Redness. Pain. Safety go						oggles.		water for remove of easily po	se with plenty of r several minutes; contact lenses if ossible; seek attention.		
Abdominal cramps. Burning sensation. Nausea. Vomiting.					Do not ethe labor		nk in				
Carcinogen	icity	Not a knov	wn carcinoge	en.		Mutage	nicity		Possible	mutagen.	

Abbreviations:

				Н	exane					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol
110-54-3, 107-83-5	liquid	colorless	hydrocarbon- like	-7	69	-95	0.660	12	5 3	slightly soluble
Types of Acute Hazards/Symptoms Prevention First Aid/Fi Hazard/Exposure										rst Aid/Fire
Fire Severe fire hazard; vapor may travel considerable distance to ignition source and flash back. Severe fire hazard; vapor may travel sparks, no contact with hot surfaces. No flames, no carbon dioxide, dry chemical powder or appropriate foam.										powder or
Inhalation	n	to the up	inhalation. Va per respiratory ade headache, o	track.	Symptoms	Ventilat exhaust		al	breathing	to fresh air. If g is difficult, give Seek medical
Skin		May caus	se skin irritatio	n.		Protecti and clot	_	oves	with soa	tely flush skin p and copious of water for at minutes.
Eyes May causes eye irritation. Safety goggles. Immediately flush eye with copious amount water, lifting upper an lower lids occasional Seek medical advice.							ious amounts of fting upper and ls occasionally.			
Ingestion			ingestion. Syr eadache, dizzir			Do <i>not</i> in the la				wed, wash out ith water.
Carcinoge	enicity	Not a kno	own carcinoger	1.		Muta	agenicit	y	Not a kn	own mutagen.

Abbreviations:

			1	, 6-Н о	exanedia	nmine				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
6055-52-3	solid	colorless	fishy	N/A	204–205	41–42	N/A	N/A	N/A	soluble
Type: Hazard/E		Acut	e Hazards/	Sympt	toms	Preve	ention		Fi	rst Aid/Fire
Fire Slight fire hazard. Avoid heat, flames, and sparks Regular dry chemical, carbon dioxide, water, regular foam										
Inhalation Irritation Ventilation, local exhaust. Remove from experimental exhaust. Remove from experimental exhaust.										tely; get medical
Skin		Irritation				Protective sclothing.	gloves ar	t	clothes a	contaminated nd jewelry; ıly wash skin with
with wat remove compossible,								with wat remove cossible,	hly wash eyes er for several min, contact lenses if and seek medical immediatly.	
Ingestion		Not availal	ole			Do <i>not</i> eat the laborate		l r	nead low	ng occurs, keep er than hips; get attention if
Carcinogen	icity	Not a know	vn carcinog	en.		Mutagenio	eity		Not a kn	own mutagen.

Abbreviations:

				1-I	Hexen	2						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
592-41-6	liquid	colorless	faint, pleasant	-26	63	-140	0.67	310 torr @ 20	3.0	negligible		
	es of Exposure	Acut	te Hazards/	Symptor	ns	Preve	ention		First Aid/Fire			
Fire	•	Severe fire	hazard.			No flames, no contact surfaces.			der, A	FFF, foam, kide.		
Inhalation	1		zziness. Dro consciousne			Ventilation exhaust.	, local		Fresh air, rest. Refer for medical attention.			
Skin		Dry skin.	Redness.			Protective clothing	gloves an	cloth wasi show	hes. Ri h skin v	ntaminated nse and then with water or fer for medical		
Eyes	Eyes Redness. Safety goggles.						gles.	wate reme poss	er for se ove cor	with plenty of everal minutes; ntact lenses if eek medical		
Ingestion			zziness. Dro consciousne			Do <i>not</i> eat the laborate		indu		th. Do <i>not</i> niting. Refer for ention.		
Construc		N-4 - 1				Marketer		NT.	. 1			
Carcinoge	menty	inot a knov	vn carcinoge	∂n.		Mutagenio	ાાપુ	Not	a know	n mutagen.		

Abbreviations:

			Hydrob	romic .	Acid, (Concentra	ited				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
10035-10-6	liquid	colorless to yellow	irritating	N/A	74 @ 100 torr	N/A	1.5	N/A	2.8	miscible	
Types Hazard/Ex		Acut	e Hazards/	Sympton	ms	Prev	ention		First	Aid/Fire	
Fire		Negligible	fire hazard.			N/A		appı	Use extinguishing agents appropriate for surrounding fire.		
Inhalation		the mucou nausea, pu	coughing, cl s membrane lmonary ede dizziness, an	s, headac ema, tigh	che, itness in	Ventilation exhaust.	imn	Remove from exposure immediately; get medica attention immediately.			
Skin		Severe pai yellowish	n, burns, and stains	d browni	sh or	Protective clothing.	thor wate	hes and oughly er, get r	ntaminated jewelry, wash skin with nedical nmediately.		
Eyes	Pain, lacrimation, photoph and blindness				, burns,	Safety gog	ggles.	with rem poss atter was	water ove corsible, sention, a	wash eyes for several min, tact lenses if sek medical nd continue to with water until p arrives.	
Immediate pain, difficul to swallow or speak, resp distress, thirst, nausea, we diarrhea, weak, rapid put shallow respiration.				espirator , vomitii	y ng,	Do <i>not</i> eat the laborat		imm or n occi	nediatel nilk; if	ysician y. Give water vomiting p head lower	
Carcinogenicity Not a known carcinogen. Muta					Mutageni	city	Not	a know	n mutagen.		

Abbreviations:

		1	Hydrochl	oric Ac	eid Sol	utions (9-	37%)				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	P VD	Sol	
7647-01-0 (Hydrogen Chloride)	liquid	colorless or yellow	irritating	N/A	65.5– 110	N/A	1.07– 1.18	30 @ 20		soluble	
Types Hazard/Ex		Acut	te Hazards/	Sympton	ms	Prev	vention		First	Aid/Fire	
Fire	Negligible fire hazard.						N/A Use extin appropria surroundi				
Inhalation	Burning of the throat, coughing choking, inflammation, ulceration the nose, throat or larynx, bronce pneumonia, palpitations, and headache.					Ventilation exhaust.	n, local	in ar	nmediatel nd at rest,	om exposure y; keep warm get medical nmediately.	
Skin		ulceration,	tation, inflar necrosis, ch id pulse, sw	nemical b	ourns,	Protective clothing.	gloves an	cl th w	lothes and noroughly vater, get r	wash skin with	
Eyes	Severe irritation, conjunctivitis, corneal necrosis, and burns with impairment or permanent loss of vision.						ggles.	w re po at	rith water emove cor ossible, se ttention, c	wash eyes for several min, ntact lenses if sek medical continue to with water.	
Ingestion	Burns of the mouth, throat, esophage and stomach, pain, uneasiness, nause salivation, vomiting, diarrhea, chills shock and intense thirst.					Do <i>not</i> ear the laborat		in 01 00	r milk; if	ysician y. Give water vomiting p head lower	
Consinguation Not a known garainagan Mut						Mutageni	oity	ם .	ossible m	utagan	
Carcinogenicity Not a known carcinogen.						wintagem	City	P	ossidie III	utagen.	

Abbreviations:

			Hydr	ogen l	Peroxi	ide (30%)					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7722-84-1	liquid	colorless	pungent	N/A	126	-40	1.11	23.3 @ 20	1	100%		
Types Hazard/Ex		Acute	e Hazards/	Sympto	oms	Prev	ention		First	Aid/Fire		
Fire			fire hazard. n contact wit			Avoid con combustib		als Wat	er			
Inhalation		shortness of poisoning,	sore throat, of breath, sy headache, d diarrhea, and	stemic lizziness,		Ventilation exhaust.	ı, local	imm and	Remove from exposure immediately; keep warm and at rest; get medical attention immediately.			
Skin		the skin, e	tingling and rythema or v severe burn	esicle		Protective clothing.	gloves ar	cloth thor water	nes and oughly er, and g	ntaminated jewelry, wash skin with get medical nmediately.		
Eyes	Reun			ing, blur or conjur		Safety gog	gles.	with remore poss atter cont with	water ove corsible, sention in the to	wash eyes for several min, ntact lenses if eek medical nmediately, wash eyes until medical s.		
Ingestion Irritation and injury to the mouth and throat, distention of the esophagus ar stomach, and stomach and chest pair			gus and	Do <i>not</i> eat the laborat		or n	ediatel nilk; if	ysician y. Give water vomiting p head lower				
Carcinogenicity Not a known carcinogen.						Mutagen	nicity	Poss	sible m	utagen.		

			Hydro	oxylan	nine Hy	drochlo	ride					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
5470-11-1	crystals	colorless	odorless	N/A	N/A	152	1.67	N/A	A N/A	83 g/100 mL		
Type Hazard/E		Acut	te Hazards/	Sympt	oms	Pr	eventio	n	Fi	rst Aid/Fire		
Fire			ustible. Give mes (or gase			N/A			Use extinguishing agents appropriate for surrounding fire.			
Inhalation		Headache.	or fingernail Dizziness. I . Convulsio busness.	Nausea		Ventilati exhaust., protection	, or brea		Remove from exposure immediately; keep warm and at rest; get medical attention immediately.			
Skin		Redness. I	Pain.			Protective clothing.		s and	clothes. plenty o	contaminated Rinse skin with f water or shower. r medical		
Eyes Redness. Pain. Sa				Safety go	Safety goggles.			se with plenty of r several minutes; contact lenses if ossible; seek attention.				
Ingestion		Headache.	or finger nai Dizziness. I . Convulsio ousness.	Nausea		Do <i>not</i> e the labor		ink in	slurry of in water	outh. Give a a activated charcoal to drink. Refer for attention.		
Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.						mutagen.						

Abbreviations:

				I	odine						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
7553-56-2	solid	purple to black	pungent	N/A	184.4	113.5	4.93	0.30 @ 2		0.03% @ 20	
						•					
Types Hazard/Ex		Acut	te Hazards/	Sympton	ns	Preve	ention		First	Aid/Fire	
Fire			fire hazard. n contact wit			Avoid cont combustibl		als ap	Use extinguishing agents appropriate for surrounding fire.		
Inhalation Severe irritation of the mucous membranes, severe cough, headache, and feeling of tightness in the chest. Ventilation, local exhaust.									nmediatel nd at rest;	om exposure y; keep warm get medical nmediately.	
Skin		marked erg	coloration o ythema, deso on with weep	quamatio		Protective clothing.	gloves ar	cl th w	othes and oroughly	wash skin with nedical help	
Eyes		Burning se lacrimation	ensation, irri	itation, a	nd	Safety gog	gles.	w re po at co	rith water emove con ossible, se tention ir ontinue to	y wash eyes for several min, ntact lenses if eek medical nmediately, wash eyes until medical s.	
Ingestion		gastrointes discolorati membrane nausea, sev	ion and correctinal tract, to on of the lips, a burning were vomiting that, metallicand stupor.	orown os and mo sensation ng, diarrh	icous n, ea,	Do <i>not</i> eat the laborate		in th ve	en starch omiting o	ysician ly. Give milk solution; if ccurs, keep than hips.	
		•				•					
Carcinogenio	city	Not a know	vn carcinog	en.		Mutagenio	eity	P	ossible m	utagen.	

Abbreviations:

			Io	odine N	Ionocl	nloride						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7790-99-0	solid	red	pungent	N/A	N/A	27.2	3.240	N/A	N/A	decomposes		
Types Hazard/Ex		Acu	te Hazards/	Symptor	ns	Prev	ention		First	Aid/Fire		
Fire		Negligible	fire hazard.			N/A		appı	Use extinguishing agents appropriate for surrounding fire.			
Inhalation		breathing,	t, coughing, fatigue, resp and pulmona	oiratory	a.	Ventilation exhaust.	imm and	nediatel at rest;	om exposure y; keep warm get medical nmediately.			
Skin		Irritation a	and burns.	Protective clothing.	gloves an	cloth	hes and oughly er, and	ntaminated jewelry, wash skin with get medical nmediately.				
Eyes	Eyes Potent lacrimator, binjury.					Safety gog	ggles.	with rem poss	water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion		gastrointes	t, labored br stinal irritation ea, and vom	on, abdo	minal	Do <i>not</i> eat the laborat		imm or n occu	nilk; if	ysician y. Give water vomiting p head lower		
Carcinogenio	oity	Not a know	wn carcinoge	an an		Mutageni	city	Not	a knou	n mutagen.		

Abbreviations:

				Isob	outylben	zene				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol
538-93-2	liquid	colorless	mild aromatic	54	173	-51	0.853	4.2	2 N/A	insoluble
Type: Hazard/E		Acut	te Hazard	s/Symp	toms	Preve	ention		Fir	rst Aid/Fire
Fire		Combustil	ole and flai	No flames, no contact surfaces.		t	dioxide,	ray, Carbon dry chemical or appropriate		
Inhalation		May be ha	rmful if in	haled.		Ventilation exhaust.	, local		breathing	to fresh air. If g is difficult, give Seek medical
Skin		May cause	skin irrita	tion.		Protective clothing.	gloves a	and	with soap	tely flush skin o and copious of water for at minutes.
Eyes		Causes eye	e irritation.			Safety gogg	gles.		with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.
Ingestion		May be ha	rmful if sv	vallowe	d.	Do <i>not</i> eat the laborate	01 011111	c in		wed wash out ith water. Call a
Carcinogen	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									

Abbreviations:

			(-)-Isopi	inocan	npheol					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
25465-65-0	solid	white	N/A	93	219	52–55	N/A	N/A	N/A	N/A	
Types Hazard/Ex		Acut	e Hazards/	Sympton	ms	Prev	ention		First Aid/Fire		
Fire		Slight fire	hazard.			Avoid heat sparks	carb	Regular dry chemical, carbon dioxide, water, regular foam.			
Inhalation Irritation.						Ventilation exhaust.	ı, local	imn	Remove from exposure immediately; get medica attention.		
Skin		Irritation.				Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin witl	
Eyes Irritation.						Safety gog	gles.	with rem poss	water ove consible, ar	wash eyes for several min ttact lenses if ad seek medica nmediately.	
Ingestion N/A						Do <i>not</i> eat the laborate		head	d lower	occurs, keep than hips; get ention, if	
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known carcinogen.							a know	n mutagen.			

Abbreviations:

]	Isopro	pylben	zene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
98-82-8	liquid	colorless	aromatic	31	152.4	-962	0.862	3.2 (20	_	insoluble		
Types Hazard/Ex		Acu	te Hazards/S	ymptor	ns	Pr	evention	1	First Aid/Fire			
Fire		Highly flan	nmable.			No flames, no sparks, no contact with hot surfaces. Powder, AFFF, for carbon dioxide.						
Inhalation			ugh. Dizziness Sore throat. U			Ventilati exhaust.	ion, loca	1	upright	r, rest. Half- position. Refer for attention.		
Skin		Dry skin				Protective clothing.		s and	clothes.	contaminated Rinse and then in with water and		
Eyes		Redness. P			Safety g	oggles.		water fo remove	se with plenty of r several minutes; contact lenses if ; seek medical n.			
Ingestion			ugh. Dizziness Sore throat. U			Do not e the labor		nk in	induce v	nouth. Do <i>not</i> comiting. Refer for attention.		
Carcinogen	arcinogenicity Possible carcinogen. Mutagenicity Possible mutagen.											

Abbreviations:

				Isop	oropylxyl	enes						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
N/A	liquid	colorless	mild aromatic	N/A	193–216	N/A	0.85	N/A	A N/A	insoluble		
Type: Hazard/E		Acu	te Hazard	s/Symp	otoms	Preve	ention		First Aid/Fire			
Fire		Combusti	ble liquid.			No flames, no contact surfaces.			Dry chen carbon di	nical, foam, or ioxide.		
Inhalation		May be hat to respirate exposure cand vomit	ory system an cause n	. Prolo	nged	Ventilation, local Remove to fres exhaust. Remove to fres breathing is diff				to fresh air. If g is difficult, give		
Skin		Irritating t drying, cra	o the skin. acking and			Protective g clothing.	gloves a		with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove lated clothing.		
Eyes	Irritating to the eyes. May cause redness and stinging.						Safety goggles.			tely flush eyes ious amounts of ing upper and s often. Seek advice.		
Ingestion		May be hat cause irritatract.				Do <i>not</i> eat the laborate				wed wash out ith water. Call a 1.		
Carcinogen	icity	Not a know	wn carcino	gen.		Mutagenic	eity		Not a kno	own mutagen.		

Abbreviations:

				Lead	d Aceta	ate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
301-04-2	solid	white	pungent	N/A	N/A	280	3.25	N/A	N/A	44.3%
Types Hazard/Ex		Acu	te Hazards/	Symptor	ns	Prev	ention		First	: Aid/Fire
Fire		Negligible	fire hazard.			N/A		appı	exting ropriate oundin	
Inhalation		sensation : excessive	aste, thirst, a in the mouth salivation, a fatigue, slee	and throbdominal	oat, l pain,	Ventilation exhaust.	imn and	nediatel at rest,	om exposure y, keep warm get medical nmediately.	
Skin		Irritation.		Protective clothing.	gloves an	clot	hes and oughly	ontaminated l jewelry, wash skin with		
Eyes		Irritation.		Safety gog	gles.	with rem poss	n water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion	Ingestion Symptoms as descri				lation.	Do <i>not</i> eat the laborat		imm occu than	nediatel urs, kee	ysician ly. If vomiting p head lower Get medical
Carcinogeni	city	Possible c	arcinogen.			Mutagenio	city	Not	a know	n mutagen.

Abbreviations:

				Maş	gnesiu	m					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
7439-95-4	solid	white	odorless	N/A	1107	649	1.7 @ 5	1 @ 621	N/A	reacts	
Types of Acute Hazards/Symptoms Prevention First Aid/Fi											
Fire		Severe fire	hazard.			No flames, no contact surfaces.		y chemical, soda ash.			
Inhalation			ensation, cor laryngitis, h			Ventilation exhaust.	ı, local	imn		om exposure y; get medical	
Skin			al lesions if he skin or ga its.			Protective clothing.	gloves an	clot	hes and	ntaminated jewelry, wash skin with	
Eyes Formation of hydrogen bubbles.						Safety gog	gles.	with rem poss	n water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.	
Ingestion		vomiting,	stinal irritati chills, fever anorexia, al ea.	, muscle	and	Do <i>not</i> eat the laborat		head med	If vomiting occurs, keep head lower than hips; get medical attention, if needed.		
Carcinogeni	city	Not a know	wn carcinog	en.		Mutagenio	city	Not	a know	n mutagen.	

Abbreviations:

				Maleic	Anhyo	dride				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
108-31-6	solid	colorless	irritating	103	200	54–56	1.314 @ 60	1 @ 44	3.4	reacts
Types Hazard/Ex		Acut	te Hazards/	Preve	ention		First	Aid/Fire		
Fire		Slight fire	hazard.		Avoid heat flames.		ohol res	sistant foam, kide.		
Inhalation		Irritation; sensation vomiting.	fumes cause in the throat	ig, and	Ventilation exhaust.	, local	imn and	emove from exposure nmediately; keep warm nd at rest, get medical ttention immediately.		
Skin			inflammatio possibly ab			Protective clothing.	gloves an	clot tho wat	hes and oughly er, and	ntaminated jewelry, wash skin with get medical nmediately.
Eyes		conjunctiv	severe burns itis, corneal otophobia, c ation.	damage	or	Safety gogg	gles.	with rem pos atte con with	n water ove con sible, se ntion in tinue to	wash eyes for several min, ntact lenses if sek medical nmediately, and wash eyes until medical s.
Ingestion			, sore throat, ea, and vom		nal	Do <i>not</i> eat the laborate		or r	nilk; if	ysician y. Give water vomiting p head lower
Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.										

Abbreviations:

				Mer	curic O	xide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol		
21908-53-2	powder	orange- red or orange- yellow	odorless	N/A	N/A	500	11.14	N/A	A N/A	insoluble		
Types Hazard/Ex		Acu	te Hazards/	Sympt	oms	Pr	eventior	1	First Aid/Fire			
Fire		heat of rea or combus Upon heat oxygen, w	is a strong of action with restibles may of hing it decon- thich increase ity of comb	educing cause ig aposes es the	g agents gnition. to form	No open sparks.	flames	or		means suitable for shing surrounding		
Inhalation		tract. Sym coughing, breathing breath and develop. C	itation to the ptoms inclu pain, tightn difficulties, I headache. I Can be absor with sympt	de sore ess in o shortne Pneumo bed thr	throat, chest, ess of onitis may ough	Ventilat exhaust.	ion, loca	1	breathin oxygen.	e to fresh air. If g is difficult, give Get medical n immediately.		
Skin		redness an May cause absorbed t	itation. Sym d pain. May e sensitization through the set to parallel	cause on. Can skin wi	burns. be th	Protective clothing	ve gloves	s and	with ple least 15 removing clothing	ately flush skin nty of water for at minutes while ag contaminated and shoes. Get attention ately.		
Eyes		Symptoms blurred vis	itation and b s include rec sion; may ca s eye damage	lness, p use ser	oain,	Safety goggles.			with ple least 15 lower ar occasion	ately flush eyes nty of water for at minutes, lifting nd upper eyelids nally. Get medical n immediately.		
Ingestion		inorganic gram. May and phary	xic! Average mercury salt y cause burn nx, abdomin corrosive ul	s is abo ing of a al pain	out 1 the mouth	Do not e the labor	eat or dri ratory.	nk in	immedia medical	vomiting ately as directed by personnel. Get attention ately.		
Carcinogenicity Not a known carcinogen. Mutagenicity									Possible	e mutagen.		

				M	ethano	l				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
67-56-1	liquid	colorless	alcohol- like	11	64.6– 64.7	-98	0.7914	97.25 @ 20	1.11	soluble
Types Hazard/Ex		Acut	te Hazards/	Sympton	ms	Prev	ention		First	t Aid/Fire
Fire			hazard., vap at distant i			s. <i>no</i> contact with hot carbo				sistant foam, xide, regular dry vater.
Inhalation		twitching,	coughing, unconstipation ains in the h	n, numbi	ness and	Ventilation exhaust.	ı, local	imm		om exposure y; get medical
Skin		metabolic	skin absorpt acidosis and entral nervo gestion.	leffects	on the	Protective clothing.	gloves an	clotl	hes and oughly	ontaminated l jewelry, wash skin with
Eyes							Safety goggles.		water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion	Inebriation, drowsiness, coughing, headache, dullness, weakness, verti dizziness, nausea, vomiting, occasional diarrhea, and blindness.						or drink	head	l lower ical att	occurs keep than hips, get ention, if
Carcinogeni	icity	Not a know	wn carcinoge	en.		Mutagenio	eity	Poss	sible m	utagen.

Abbreviations:

				Methy	yl Acetoa	cetate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
105-45-3	liquid	colorless	sweet	69	169–170	-80	1.076	N/A	A 4	soluble
Type Hazard/E		Acu	te Hazard	s/Symp	otoms	Prev	ention		Fi	rst Aid/Fire
Fire Combustible liquid. Avoid heat, sparks, flames. Carbon dioxide, dry chemical powder or appropriate foam.										
Inhalation Irritating to respiratory system. Ventilation, local exhaust. breathing oxygen. S advice.										
Skin		May cause	skin irrita	ation.		Protective clothing.	gloves a		with soap	tely flush skin p and copious of water for at minutes.
Eyes Can cause blindness.						Safety gogg	gles.		with cop water, lif lower lid	tely flush eyes ious amounts of iting upper and s occasionally. dical advice.
Ingestion		May be ha	rmful if sv	wallowe	d.	Do <i>not</i> eat the laborate				wed, wash out ith water. Call a 1.
Carcinogen	icity	Not a know	wn carcino	gen.		Mutagenio	eity		Not a kn	own mutagen.

Abbreviations:

				Methy	l Benz	coate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VF	P VD	Sol	
93-58-3	liquid	colorless	fruity	82	198– 199	-12	1.094	1 @ :	39 4.68	0.016%	
Types of Acute Hazards/Symptoms Prevention First Hazard/Exposure											
Fire Moderate fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. Regular dry chemical, carbon dioxide, water, regular foam.											
Inhalation		Irritation, s	sore throat,	Ventilation, local exhaust.				om exposure y; get medical			
Skin		Irritation.				Protective clothing.	gloves ar	cl th	lothes and	ntaminated jewelry, wash skin with	
Eyes Redness, pain, and irritation. Safety goggles.									vith water emove cor ossible, ar	wash eyes for several min atact lenses if ad seek medical anmediately.	
Ingestion		Abdominal and depress		iting, dia	rrhea,	Do <i>not</i> eat the laborat		he m		occurs, keep than hips; get ention, if	
Carcinogeni	city	Not a know	vn carcinog	en.		Mutagenio	city	N	ot a know	n mutagen.	

Abbreviations:

			Metl	nyl Iod	ide					
CAS No. PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
74-88-4 liquid	colorless	acrid	N/A	42	-66.1	2.28	400 @ 25		14 g/100 mL	
Types of Hazard/Exposure	Acut	te Hazards/S	18	Pro	evention	1	First Aid/Fire			
Fire		ered to be a fi se poisonous			No open sparks.	flames	or		nical, foam, ioxide, or water	
Inhalation	respiratory produce syn and mental symptoms i	of vapors can tract. Overex nptoms of ve disturbances may include s coughing, n	posure mertigo, de Other slurred sp	nay lirium beech,	Ventilati exhaust.	on, loca	1	breathing oxygen.	to fresh air. If g is difficult, give Get medical immediately.	
Skin	formation.	ation, rash ar Prolonged co Can be absor ffects.	ntact can	cause	Protective clothing.		s and	with plen water for minutes v contamin shoes. Ge	tely flush skin aty of soap and at least 15 while removing lated clothing and et medical , immediately.	
Eyes		cause irritati severe irritati			Safety goggles.			Immedia with plen least 15 r lower and occasions	tely flush eyes ty of water for at minutes, lifting d upper eyelids ally. Get medical immediately.	
Ingestion	intestinal tr	nay damage thact. Severe in symptoms of ression.	ntoxicatio	on can	Do not e the labor				tely as directed by personnel. Get attention	
Carcinogenicity	Possible carcinogen. Mutagenicity Possible mutagen.						mutagen.			

Abbreviations:

			Methy	yl Isobu	tyrate							
CAS No. PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
547-63-7 liquid	colorless	fruity	3	90	N/A	0.891	N/A	N/A	slightly soluble			
Types of Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure Flormable liquid Avoid best specific Corbon districts dry												
Fire	Flammable	e liquid.			Avoid heat flames.	lioxide, dry powder or ate foam.						
Inhalation	May be ha	rmful by i	nhalatio	n.	Ventilation exhaust.	, local	I t	Remove breathing	to fresh air. If g is difficult, give Seek medical			
Skin	May cause	skin irrita	ation.		Protective clothing.	gloves a	V a	with soap	tely flush skin o and copious of water for at minutes.			
Eyes	tion.		Safety goggles.			with copi water, lif lower lid Seek med	tely flush eyes ious amounts of ting upper and s occasionally. dical advice.					
Ingestion	May be ha	rmful if sv	wallowed	d.	Do <i>not</i> eat the laborate		1		wed, wash out ith water. Call a			
Canaina anni aita	Nat a law				Marko menda		Lx	VI. 4 . 1				
Carcinogenicity	Not a know	vn carcino	gen.		Mutagenio	пу	Γ	NOT a KNO	own mutagen.			

Abbreviations:

			3	3-Metl	hylbenzo	ic Acid						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol		
99-94-5	solid	white	odorless	N/A	274–275	180–182	1.27	N/A	N/A	0.33 g/L		
	pes of Exposure	Acı	ute Hazard	s/Symp	otoms	Preve	ention		First Aid/Fire			
Fire		Flammab fire cond	le. Emits t itions.	oxic fu	mes under	Avoid heat flames.	, sparks	,	dioxide,	ray, carbon dry chemical or appropriate		
Inhalation	n	Irritatin	ig to	Ventilation exhaust.	, local		Remove to fresh air. If breathing is difficult, gooxygen.					
Skin		Irritant.				Protective g clothing.	gloves a	and	with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes Vapor or mist may be irritating to the eyes.						Safety gogg	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion		Harmful	if swallowe	d.		Do <i>not</i> eat the laborate		c in		wed wash out ith water. Call a 1.		
Carcinogenicity Not a known carcinogen. Mutagenicity									Not a kn	own mutagen.		

Abbreviations:

			(+/-	-)-α-M	lethylbei	nzylamin	e					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol		
618-36-0	liquid	colorless	N/A	79	185 @ 756 torr	-65	0.940	N/	'A N/A	poorly soluble		
	es of Exposure	Acute	Hazard	s/Symp	otoms	Prev	ention		First Aid/Fire			
Fire		Emits toxic conditions.	nder fire		Avoid heat, sparks, flames. Water spray, c dioxide, dry cl powder or app foam.							
Inhalation	Extremely destructive to tissue of to mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing wheezing, laryngitis, shortness of breath, headache nausea and vomit					Ventilation exhaust.	to fresh air. If g is difficult, give					
Skin		Harmful if Extremely skin. Caus	destructiv			Protective clothing.	gloves a	nd	with soa amounts least 15	ntely flush skin p and copious of water for at minutes. Remove nated clothing.		
Eyes	yes Harmful to the eyes.					Safety goggles.			Immedia with cop water lif	ntely flush eyes bious amounts of ting upper and ls often. Seek		
Ingestion	Ingestion Harmful if swallowed. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache nausea and vomiting.					Do <i>not</i> eat the laborat		in		owed wash out rith water. Call a n.		
Carcinoge	nicity	Not a know	n carcino	gen.		Mutageni	city		Not a kn	own mutagen.		

			N	Iethyl	cycloh	exane					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
108-87-2	liquid	colorless	sweet	-3	101	-126– -126.3	0.77	37 @ 20	3.4	insoluble	
Types Hazard/Ex		Acute	Hazards	/Sympto	oms	Preve	ention		First	Aid/Fire	
Fire		hazard, vaj	hazard., mo pors or gase	s may igi		No flames, no contact surfaces.		carb	Regular dry chemical, carbon dioxide, water for cooling, regular foam.		
Inhalation		lacrimation	ight-headed n, salivation diarrhea, an nage.	, labored		Ventilation exhaust.	ı, local	imm and	Remove from exposure immediately, keep warm and at rest, get medical attention immediately.		
Skin		Irritation, h	ardening, u	lceration	, and	Protective g	gloves an	cloth thor water	hes and oughly	ntaminated jewelry, wash skin with nedical	
Eyes		Conjunctiv	al congesti	on.	Safety gog	gles.	with rem poss	water ove con sible, ar	wash eyes for several min, ntact lenses if and seek medical nmediately.		
Ingestion			ethargy, sev dney damaş collapse.		hea,	Do <i>not</i> eat the laborate	or n	nediatel	ysician y. Give water vomiting p head lower		
Carcinogenicity Not a known carcinogen. M							city	Not	a know	n mutagen.	

				2-Me	thylprop	oanal						
CAS No.	PS	Color	Odor	FP	BP	MP	d		VP	VD	Sol	
78-84-2	liquid	colorless	pungent	-25	63–64	-65	0.7938		6 @ 25	\mathcal{E} ,		
Type Hazard/E		Acut	Prev	ention		First Aid/Fire						
Fire Severe fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no contact with hot surfaces. Alcohol resistant foam, carbon dioxide, regular chemical, water											kide, regular dry	
Inhalation Irritation, central nervous system depression, and symptoms similar to alcohol intoxication. Ventilation, local exhaust. Remove from eximmediately, generated attention.												
Skin			burns, letha		nts may	Protective clothing.	gloves an	d	cloth	nes and oughly	ntaminated jewelry, wash skin with	
Eyes	Safety goggles.			with remo	water ove cor ible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.						
Ingestion			rvous syster similar to a n.			Do <i>not</i> eat the laborate		in	imm occu than	ediatel rs, kee hips; g	ysician y. If vomiting p head lower get medical nmediately.	
Carcinogen	icity	Not a know	vn carcinog	en	_	Mutagenio	rity		Not	a knou	n mutagen.	

Abbreviations:

			Methyl	triocty	lammor	nium Chle	oride				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
5137-55-3	viscous liquid	colorless to pale orange	N/A	109	N/A	N/A	0.884	N/A		partially soluble	
Type Hazard/E		Acut	e Hazard	ls/Symp	toms	Prev	vention		Fi	rst Aid/Fire	
Fire		Emits toxic conditions		nder fire		Avoid hea flames.	t, sparks		lioxide, dry powder or ate foam.		
Inhalation		Harmful b exposure n sensation, laryngitis, headache,	nay includ coughing, shortness	le burnin wheezin of breat	ng ng, h,	Ventilatio exhaust	n, local		to fresh air. If g is difficult, give Seek medical		
Skin		Harmful if	absorbed	through	skin.	Protective clothing.	gloves a		with soap	tely flush skin p and copious of water for at minutes.	
Eyes	Causes eye irritation. Safety gog					ion. Safety goggles.			with cop water lift lower lid	tely flush eyes ious amounts of ting upper and s occasionally. dical advice.	
Ingestion		Harmful if exposure n sensation, laryngitis, headache,	nay includ coughing, shortness	le burnin wheezing of breat	ng ng, h,	Do <i>not</i> earthe labora		k in If swallowed, wash out mouth with water. Call physician.			
Carcinogen	icity	Not a know	vn carcino	ogen.		Mutageni	city		Not a kn	own mutagen.	

Abbreviations:

			2	-Metl	hyl-2-bı	ıtanol				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
75-85-4	liquid	colorless	distinct	21	102	-12	0.805	10 @ 17.2	3.0	slightly soluble
Types Hazard/E		Acute	Hazards	/Symp	toms	Prev	ention		Aid/Fire	
Fire			may ignite at distant ignition sources. no contact with hot carbo					on diox nical, w	sistant foam, ide, regular dry vater for	
Inhalation		diarrhea, c		thortness of breath, exhaust. immediatel and at rest,				if needed; get		
Skin		skin, causi nausea, vo	May be absorbed headached miting, flustion, drop in sciousness.	e, dizzir shing, ra	ness, apid pulse	clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with
Eyes	Conjunctivitis, double vision and irritation. May be absorbed, causing headache, dizziness, cough, shortness of breath, vomiting, excitement and delirium.				with rem poss	water ove cor	wash eyes for several min, ntact lenses if ad seek medical			
Ingestion		shortness of	miting, dian of breath, co and deliriu	ough, di	zziness,	Do <i>not</i> eat the laborat		imm occu than	ysician y. If vomiting p head lower get medical nmediately.	
Carcinoge	nicity	Not a know	vn carcinog	en.		Mutagen	icity	Not	a know	n mutagen.

			2	2-Met	thyl-1-b	utene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
563-46-2	liquid	colorless	unpleasant	<-7	31-32	N/A	0.6504	N/A	2.4	insoluble		
Type Hazard/E		Acu	te Hazards/	ds/Symptoms Prevention					First	Aid/Fire		
Fire			fire hazard. \eartheard at distant i			No flames no contact surfaces.		carb	Alcohol resistant foam, carbon dioxide, regular of chemical, water for cooling			
Inhalation			central nervo a, asphyxia	ous sys	tem	Ventilation exhaust.	n, local	imm and resp med	nediatel at rest,			
Skin		Irritation				Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes Irritation					Safety gog	ggles.	with rem poss	water ove consible, an	wash eyes for several min, ntact lenses if nd seek medical nmediately.			
Ingestion		aspiration	o the gastroi into the lung to chemical	gs may	cause	Do <i>not</i> ear the laborar		imm	nediate	ysician ly. If vomiting p head lower		
Carcinogen	icity	Not a know	wn carcinoge	en.		Mutageni	city	Not	a know	n mutagen.		

Abbreviations:

			2	2-Met	thyl-2-b	utene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
513-35-9	liquid	colorless	unpleasant	-20	37–38	-134	0.663	N/A	2.4	slightly soluble		
Type Hazard/E		Acu	te Hazards/	Sympt	otoms Prevention First Ai					t Aid/Fire		
Fire			fire hazard. Ve at distant i				Alcohol resistant for carbon dioxide, reg chemical, water for cooling.					
Inhalation		depression disorientat nausea; res	central nervo with dizzin ion, headach piratory and burning se	ess, ne, von cardia	niting and c	Ventilation exhaust.	n, local	Remove from exposi immediately, keep w and at rest; get mediatention immediatel				
Skin		Erythema				Protective clothing.	gloves an	clo	thes and roughly	ontaminated l jewelry, wash skin with		
Eyes		Irritation				Safety gog	gles.	with rem pos	Thoroughly wash eyes with water for several n remove contact lenses it possible, and seek mediattention immediately.			
Ingestion		depression respiratory	nd central no with labore failure. Asp hemical pne	d breat	thing and n may	Do <i>not</i> eat the laborat		hea me	If vomiting occurs, keep head lower than hips; get medical attention, if needed.			
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen								n mutagen.				

Abbreviations:

			2-	Methyl	-3-but	yn-2-ol				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
115-19-5 liquid colorless N/A 25 104 2.6 0.8								N/A	N/A	miscible
Types of Acute Hazards/Symptoms Prevention Fin										Aid/Fire
Flammable liquid and vapor. No flames, no sparks, no contact with hot surfaces. Carbon diox chemical por use water.									xide or dry owder. Do not	
Inhalation	l	Causes irrit			tract	Ventilatio exhaust.	n, local	Ren	nove to	fresh air.
Skin		Can irritate	skin.			Protective clothing.	gloves an	soap		water. Use ourns have
with water remove co possible, a								water ove cor sible, ar	wash eyes for several min ntact lenses if nd seek medical nmediately.	
Ingestion		Causes irrit		ucous		Do <i>not</i> ear			uires ar iysician	ntidote. Contact
Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.										

Abbreviations:

	2-Methyl-3-heptanol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	VD	Sol			
14979-39-6	liquid	colorless	N/A	54	98–99 @ 75 torr	N/A	0.827	N/A	N/A	slightly soluble			
Types Hazard/Ex		Acut	te Hazard	ls/Symp	otoms	Prev	ention		Fir	rst Aid/Fire			
Fire Combustible. Flammable.* Avoid heat, sparks, flames. Carbon dioxide chemical powd appropriate foa								powder or					
Inhalation May be harmful if inhaled. Irritating to ventilation, local exhaust. Remote breath						Remove	to fresh air. If						
Skin		Irritating to	the skin.	*		Protective clothing.	gloves a	and	Immedia with soap amounts least 15 r	tely flush skin o and copious of water for at minutes. Remove sated clothing.			
Eyes Irritating to the eyes.* Safety goggles.						Immedia with copi water lift	tely flush eyes ious amounts of ing upper and s often. Seek						
Ingestion		May be har	rmful if sv	vallowe	d.*	Do <i>not</i> eathe labora				wed, wash out ith water. Call a n.			
Carcinogeni	city	Not a know	vn carcino	gen.		Mutagen	icity		Not a kn	own mutagen.			

^{*} Toxicological information for the listed chemical is *not* available. Information given pertains to **4-methyl-3-heptanol** and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

			4	-Metl	nyl-2-pe	ntanol						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
108-11-2	liquid	colorless	sweet	41	132	-90	0.802	2.8 @ 20	3.53	1.7% @ 20		
Type Hazard/E		Acut	Acute Hazards/Symptoms				ention		First Aid/Fir			
Fire			fire hazard.; at distant i			No flames, no contact surfaces.						
Inhalation		headache, central ner	sore throat, shortness of vous systen nausea, vor	breath depre	, and ssion with	exhaust.	tilation, local Remove from ex					
Skin		absorbed to cause centre depression	vith redness hrough the s ral nervous s with weaki s, nausea, vo	skin an system ness, di	d may zziness,	Protective clothing.	gloves ar	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes		Redness, p	pain, and blu	arred v	ision.	Safety gog	gles.	wash eyes for several min, ntact lenses if nd seek medical nmediately.				
Ingestion			l pain, vom l nervous sy			Do <i>not</i> eat the laborate		in If vomiting occurs, ke head lower than hips, immediate medical attention.				
Carcinogen	icity	Not a know	wn carcinog	en.		Mutagenio	eitv	Not	a know	n mutagen.		

Abbreviations:

			2	-Meth	yl-1-po	entene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	· 1	V D	Sol
763-29-1	liquid	colorless	N/A	-9	62	-136	0.682	325 37.		I/A	insoluble
	•										
Hazard/Exposure										rst Aid/Fire	
Fire Severe fire hazard. No flames, no sparks, no contact with hot surfaces. Carbon dioxide, regular chemical powder, foar water for cooling.										powder, foam,	
								from exposure tely; get medical			
Skin		Irritation, n through ski	nay be harmfun.	ıl if abso	orbed	Protective		s and	cloth	es a	contaminated nd jewelry, ıly wash skin with
Eyes Irritation. Safety gog.							oggles.		with remo possi	wat ve d ble,	hly wash eyes er for several min, contact lenses if and seek medical immediately.
Ingestion		May be har	mful.			Do not ethe labor		nk in	head	low cal	ng occurs, keep ver than hips; get attention, if
G •											
Carcinoger	ncity	Not a know	n carcinogen	•		Mutager	nicity		Not a	. Kno	own mutagen.

Abbreviations:

			4	l-Met	hyl-1-pe	entene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
691-37-2	liquid	colorless	N/A	-7	53–54	N/A	0.6642	424 @ 38	2.9	N/A		
Type Hazard/E		Acut	/Sympt	Prev	rention		First	t Aid/Fire				
no conta								No flames, no sparks, no contact with hot surfaces. Regular dry chemic carbon dioxide, was cooling, regular for				
Inhalation		al ith vertigo,	Ventilation exhaust.	n, local	imm		om exposure y; get medical					
Skin		Irritation				Protective clothing.	gloves an	clotl thor	Remove contamina clothes and jewelry thoroughly wash sl water.			
Eyes	with water for a remove contact							for several min,				
Ingestion		No specific				Do <i>not</i> eat the laborat			medica ediatel	al attention y.		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									n mutagen.			

Abbreviations:

			4-	-Meth	yl-2-pe	entene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol		
4461-48-7	liquid	N/A	N/A	<-7	56–59	N/A	0.669	N/A	2.90	insoluble		
	Types of Acute Hazards/Symptoms Hazard/Exposure						eventior	1	Fi	First Aid/Fire		
ignite at distant ignition sources. **no contact with hot surfaces.** research.**							carbon d	Regular dry chemical, carbon dioxide, water, regular foam.				
Inhalation Irritation, possible narcotic and may cause central nervous system depression with vomiting, dyspnea, cyanosis, vertigo, incoordination, loss of consciousness, and even death at high concentrations. Ventilation, local exhaust.						1	Remove from exposure immediately; get medic attention					
Skin		Irritation.				Protective clothing		s and	clothes a	contaminated nd jewelry, ıly wash skin with		
Eyes		Irritation.				Safety g	Thoroughly wash ey with water for sever minutes, remove con lenses if possible, at seek medical attention immediately.					
Ingestion			c data availabl estem depressi			Do not e		nk in	Get media	ical attention tely		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.								own mutagen.				

Abbreviations:

			2.	-Meth	ıyl-1-prop	oanol						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
78-83-1	liquid	clear	sweet and musty	28	108	-108	0.803	9.5 g/100 mL water				
Type Hazard/E		Acut	e Hazards	s/Sym _I	otoms	Prev	ention		First Aid/Fire			
Fire	Flammable liquid and vapor No flames, no sparks, no contact with hot surfaces.							chemica on dioxi	ıl, foam or de.			
Inhalation	Causes irritation to respiratory tract Effects from overexposure include headache, dizziness, muscle weakne drowsiness, incoordination, confusi and coma.						n, local	brea	Remove to fresh air breathing is difficul oxygen. Call a phys			
Skin		Skin contac and pain. M skin; symp similar to t	Iay be abstoms of ab	orbed to sorption	hrough the on may be	Protective and clothi		cloth soap wate minu atten	or mild or mild r for at it ites. Get tion if i	contaminated ash skin with detergent and least 15 medical rritation persists.		
Eyes		blurred vision. Splashes may cause severe irritation or eye damage. with please least 15 lower an occasion					plenty of 15 min or and up sionally	flush eyes of water for at utes, lifting oper eyelids . Get medical mediately.				
Ingestion		Ingestion n and diarrhe	•	nausea	, vomiting,	Do <i>not</i> ea in the laborate		imm	ce vomi ediately ical pers	as directed by		
Carcinogen	icity	Not a know	n carcinos	gen.		Mutageni	citv	Poss	ible mu	tagen.		

Abbreviations:

				2-Met	hyl-2-pro	panol				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
75-65-0	5-65-0 liquid colorless N/A 11 83 25-26 0.775 4								2.5	N/A
Types of Acute Hazards/Symptoms Prevention First A Hazard/Exposure									rst Aid/Fire	
Fire Flammable. Emits toxic fumes under fire conditions. Flammable. Emits toxic fumes under flames. Avoid heat, sparks, flames. Water spray, carbon dioxide, dry chemical powder or appropriate foam.									dry chemical	
Inhalation May be irritating if inhaled. Ventilation, local exhaust. Remove to fresh a breathing is diffic oxygen.										
Skin		Irritating t	o the skin	•		Protective clothing.	gloves a		with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.
Eyes Vapor or mist is irritating to the eyes. Safety goggles.								Immedia with cop water lift	tely flush eyes ious amounts of ting upper and s often. Seek	
Ingestion		Toxic, har	mful if sw	allowed	•	Do <i>not</i> eat the laborate		in		wed wash out ith water. Call a 1.
Carcinoge	enicity	Not a know	vn carcino	gen.		Mutagenio	eity		Not a kn	own mutagen.

Abbreviations:

Naphthalene CAS No. DS Color Odor EB DB MB d VB VD Sol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
91-20-3	N/A	N/A	mothball- like	N/A	218	80.5	0.963	N/A	4.4	N/A		
Types Hazard/Ex		Acu	te Hazards/	Sympton	ns	Prev	ention		First Aid/Fire			
Fire		Severe fire	hazard.; exp	olosion p	ossible.	No flames, no contact surfaces.		san	Regular dry chemical, sand, earth, regular foam water			
Inhalation		abdomina	headache, na I cramps, dia on, and confu	rrhea, ed		Ventilation exhaust.	ı, local	imn	Remove from exposure immediately; get medica attention.			
Skin		Irritation a	and severe de	ermatitis.		Protective clothing.	gloves an	clot	hes and roughly	ontaminated I jewelry, wash skin with		
Eyes			conjunctivit taracts, and o ity.			Safety gog	with rem pos	Thoroughly wash ey with water for sever remove contact lense possible, and seek m attention immediate				
Ingestion		diarrhea, h perspiration hemolytic convulsion	al cramps, na leadache, pro on, bladder in anemia, hen ns, liver inju renal failure.	uria,	Do <i>not</i> eat the laborat		hea med					
Carcinogenicity Possible carcinogen.						Mutagenio	eitv	Not	a know	n mutagen.		

Abbreviations:

	2-Naphthalenesulfonic Acid CAS No PS Color Odor FP RP MP d VP VD Sol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
120-18-3	solid	colorless	N/A	N/A	N/A	124-125	1.441	N/A	N/A	slightly soluble			
	pes of Exposure	Acu	te Hazaro	ls/Symp	otoms	Prev	ention		Fi	rst Aid/Fire			
Fire		Reacts vio toxic fume accelerate other mate	es under fi combustio	re condi on. Con	tions. May tact with	Avoid hea flames.	t, spark	С	Carbon dioxide, dry chemical powder or appropriate foam.				
Inhalation	n	Harmful if result in spedema of t chemical pedema.	pasm, infl he larynx	ammatic	on, and nchi,	Ventilation exhaust.	n, local	b		to fresh air. If g is difficult, give			
Skin		Harmful if Irritating t May cause	o the skin	. Cause	s burns.	Protective clothing.	gloves	v a le	vith soap mounts east 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.			
Eyes		Harmful to destructive				Safety goggles.			mmedia vith cop vater lift	tely flush eyes ious amounts of ing upper and s often. Seek			
Ingestion		May be far can cause, laryngitis, headache, vomiting.	Do <i>not</i> eat smoke dur		k. n		wed wash out ith water. Call a 1.						
Carcinoge	enicity	Carcinoge	n			Mutagenio	city	N	Not a kno	own mutagen.			

Abbreviations:

	1-Naphthol CAS No. PS Color Odor FP RP MP d VP VD Sol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
90-15-3	crystalline powder	white	phenolic	N/A	278– 280	95–96	1.10	1 @ 94	4.5	very slightly soluble			
Hazard/	es of Exposure	Acu	te Hazards	/Symptoi	ms	Prev	ention		First	Aid/Fire			
Fire		Slight fire	hazard.			No flames, no contact surfaces.		alco	Water spray, dry chemical alcohol foam, or carbon dioxide.				
Inhalation		tract. Sym coughing, Inhalation	itation to the ptoms may shortness o may result ems similar	include f breath. in sympt	oms	Ventilation exhaust., o protection.	r breathir	ng brea	thing is	fresh air. If s difficult, give et medical nmediately.			
Skin		and pain. I skin with ingestion a Local actions skin which	e severe irrit May be abso symptoms p and causing on may caus n may be fo pigmentatio	Protective clothing	gloves ar	with wate minu cont shoe	plenty or for a utes wh aminat	y flush skin of soap and t least 15 tile removing ed clothing and medical					
Eyes			itation, redr he cornea ar	Safety gog	with least lowe occa	plenty t 15 mi er and u sionall	y flush eyes of water for at nutes, lifting apper eyelids y. Get medical amediately.						
Ingestion		Large doses may cause crampy abdominal pain, nausea, vomiting, sweating, intense thirst, cyanosis.				Do <i>not</i> eat the laborate		imm med		y as directed by rsonnel. Get			
Carcinogenicity Not a known carcinogen.						Mutagenio	eity	Poss	sible m	utagen.			

Abbreviations:

				2-	Naphtho	ol				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
135-19-3	solid	white	distinct mothball- like	153	285-286	122-123	1.2	3.6 @ 130	4.97	slightly soluble
Type: Hazard/E		Acu	te Hazards/	Sympt	coms	Preve	ention		First	Aid/Fire
Fire		Slight fire	hazard.			No flames, no contact surfaces.		carl		sistant foam, kide, regular dry
Inhalation		vomiting,	intense thirs diarrhea, hyp potension, hy l pain.	Ventilation exhaust.	, local	imn and	nediatel at rest,	om exposure y, keep warm get medical nmediately.		
Skin		destruction	, erythema, t n, may be ab iven under in		Protective a clothing.	gloves an	clot thor wat	hes and roughly er, get 1	ntaminated jewelry, wash skin with nedical nmediately.	
Eyes		Irritation,	redness, and	Safety gog	with rem pos atte	n water love con sible, se ntion in	wash eyes for several min, ntact lenses if eek medical nmediately, and wash eyes.			
Ingestion	May cause effects as given under inhalation.			nder	Do <i>not</i> eat the laborate		imr occ than	urs, kee	ysician ly. If vomiting p head lower get medical	
Carcinogenicity Not a known carcinogen.						Mutagenio	eity	Not	a know	n mutagen.

Abbreviations:

			1-	Naph	thyl Iso	cyanate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
86-84-0	liquid	colorless	faint	109	267 @ 760 torr	N/A	1.177	N/A	5.8	decomposes
Type Hazard/E		Acut	te Hazards	/Sympt	toms	Prev	rention		First	Aid/Fire
Fire	Slight fire hazard.					No flames no contact surfaces.			on dio	y chemical, xide, regular
Inhalation	Irritation, coughing, chest pains, difficulty breathing, allergic respirator reaction, and unconsciousness.				respiratory	Ventilation exhaust.	n, local	imn		om exposure y; get medical
Skin	Allergic skin reaction, irritation, pain and possibly burns.			ion, pain,	Protective clothing.	gloves an	cloth thor water	hes and oughly er, get i	ontaminated I jewelry, wash skin with nedical nmediately.	
Eyes	Irritation, pain, and burn .			Safety gog	with rem poss atter	water ove con sible, se ntion in	y wash eyes for several min, ntact lenses if sek medical nmediately, and wash eyes			
Ingestion	Bile stasis and the cessation of bile flow.				of bile	Do <i>not</i> eat the laborat		in If vomiting occurs keep head lower than hips, get medical attention, if needed.		
Carcinogenicity Not a known carcinogen.						Mutageni	city	Not	a know	n mutagen.

Abbreviations:

			Nitr	ric Acid	l, Conc	entrated						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7697-37-2	liquid	colorless to yellow	distinct	N/A	100	N/A	1.36– 1.41	45 @ 25	1	soluble		
Types Hazard/Ex		Acut	te Hazards/	Symptor	ns	Prev	ention		First	Aid/Fire		
Fire			fire hazard contact wi			Avoid concombustible			Regular dry chemical, soda ash, water.			
Inhalation		choking, y	piratory irri ellowish bu embranes, h	rns of the	е	Ventilation exhaust.	ı, local	imn and	Remove from exposure immediately, keep warr and at rest, get medical attention immediately.			
Skin		Severe pai	n, burns, ye	ellowish s	stains.	Protective clothing.	gloves an	clot thor wate	hes and oughly	ontaminated I jewelry, wash skin with nedical help y.		
Eyes		Pain, lacri blindness.	mation, pho	tophobia	, burns,	Safety gog	with rem poss atte	n water ove con sible, se ntion, a	y wash eyes for several min, ntact lenses if eek medical and continue to with water.			
Ingestion		of the mou immediate inability to	of the muco of th, throat and pain and di o swallow o and diarrhea	Do <i>not</i> eat the laborat		or n	nediatel nilk; if	ysician y. Give water vomiting p head lower				
Carcinogenicity Not a known carcinogen.						Mutagenie	city	Not	a know	n mutagen.		

Abbreviations:

Nitric Acid, Fuming CAS No. PS Color Odor EP BP MP d VP VD Sol													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
Nitric Acid 7697-37-2 Nitrogen Dioxide 10102-44-0	liquid	yellow to red	N/A	N/A	100	N/A	1.4	62 tor @ 25		miscible			
				10 .				-					
Types Hazard/Ex		Acuto	e Hazards	/Sympton	ns	Prev	ention		First Aid/Fire				
Fire	posure	Negligible explode on materials.				Avoid cont combustibl			Regular dry chemical, soda ash, water.				
Inhalation		Nitric Acid dizziness, a symptoms: nose, and c Nitrogen D symptoms a Delayed sy uneasiness,	nd weakned dryness of hest pain of ioxide: usu at time of of mptoms: fa	ess. Delay the throad or tightness ally no exposure. atigue,	ed at and ss.	Ventilation exhaust.	ı, local	im and	mediatel l at rest;	om exposure ly; keep warm get medical nmediately.			
Skin		Nitric Acid penetrating yellow or y Dioxide: se yellow-brod burns.	burns, sta ellowish-b vere irritat	ining the rown. Nit ion, pain,	skin trogen	Protective clothing.	gloves ar	clo tho wa	thes and roughly ter, get i	ontaminated I jewelry, wash skin with medical nmediately.			
Eyes		Nitric Acid tearing, ede severe burn irritation w vision, eder ulceration,	ema, corners. Nitrogen ith redness ma of the e	on, and : severe urred	Safety gog	wit mi len me im	h water n., remo ses if po dical att mediatel	y wash eyes for several ve contact ossible, seek cention ly, and continue es with water.					
Ingestion Nitric Acid: immediate mouth, throat, and storm vomiting, and diarrhea. Dioxide: acid taste, nau vomiting.			omach, na a. Nitroge	usea, en	Do <i>not</i> eat the laborate		or occ	milk; if	ysician ly. Give water vomiting p head lower				
						1		1					
Carcinogeni	Carcinogenicity Not a known carcinogen.						city	No	t a know	vn mutagen.			

Abbreviations:

	3-Nitroaniline												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
99-09-2	solid	yellow	N/A	N/A	304	112–114	1.43	N/A	N/A	0.089 g/L			
Types Hazard/Ex		Acu	te Hazard	ls/Sympt	oms	Prev	ention		Fi	rst Aid/Fire			
Fire Emits toxic fumes under fire conditions.						No open fla sparks.	ames or		lioxide, dry powder or nte foam.				
Inhalation		Harmful b cyanosis; hours.				Ventilation exhaust.	, local	1	Remove breathing	to fresh air. If g is difficult, give Seek medical			
Skin		May be fa	tal if absor	rbed thro	ugh skin.	Protective clothing.	gloves a	,	with soap	tely flush skin o and copious of water for at minutes.			
Eyes Causes eye irritation.						Safety goggles.		,	with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.			
Ingestion	Ingestion May cause cyanosis; onset may be delayed for 2–4 hours.					Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a 1.			
Carcinogenicity Not a known carcinogen.							eity		Not a kn	own mutagen.			

Abbreviations:

				4-1	Nitroanil	ine				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
100-01-6	solid	pale yellow	N/A	164	260 @ 100 torr	149–151	1.424	N/A	N/A	slightly soluble
Type Hazard/E		Acu	te Hazaro	ls/Sym _l	otoms	Preve	ention		Fi	rst Aid/Fire
Fire		Emits tox condition	ic fumes u s.	Avoid heat flames.	, sparks	f	oam, or	ray, dry chemical, carbon dioxide.		
Inhalation		unconscio pains, dif	can cause ousness, co ficulty bre ataxia, dia	oughing athing,	, chest nausea,	Ventilation exhaust.	, local	b		to fresh air. If g is difficult, give
Skin		Toxic if i	n contact	Protective g clothing.	gloves a	a le	vith soay mounts east 15	tely flush skin of and copious of water for at minutes. Remove nated clothing.		
Eyes		Irritating	to the eye	Safety gogg	gles.	In w	Immediately flush eyes with copious amounts water lifting upper and lower lids often. Seek medical advise.			
Ingestion		Toxic if swallowed. Exposure to and/or consumption of alcohol may increase toxic effects. Exposure can cause, headache, unconsciousness, coughing, chest pains, difficulty breathing, nausea, cyanosis, ataxia, diarrhea, and vomiting.				Do <i>not</i> eat the laborate		n p c	nouth w rovided	wed wash out ith water person is s .Call a 1.
Carcinogenicity Not a known carcinogen.						Mutagenicity Not a known mutager			own mutagen.	

Abbreviations:

7 Skin Skin Skin Skin Skin Skin Skin Skin	Nitrobenzene												
Types of Hazard/Exposure Fire Comtoxic Inhalation Blue Dizzi Uncce Skin MAY finge Eyes Vapor cause burns Ingestion May dizzi	olor Odor	FP	BP	MP	d	VP	VD	Sol					
Hazard/Exposure Fire Comtoxic Inhalation Blue Dizzi Unco Skin MAY finge Eyes Vapo cause burns Ingestion May dizzi	ale almond-like	88	211	-5.7	1.2	1 @ 44.4		practically insoluble					
Inhalation Blue Dizzi Unco Skin MAY finge Eyes Vapo cause burns Ingestion May dizzi	Acute Hazards/Sy	Pro	evention	1	Fi	rst Aid/Fire							
Skin MAY finger Eyes Vapor cause burns Ingestion May dizzi	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.							alcohol-resistant ater spray, carbon					
Eyes Vapo cause burns Ingestion May dizzi	Blue lips or fingernails. Blue skin. Dizziness. Headache. Nausea. Unconsciousness. Weakness.					1	Fresh air medical	, rest. Refer for attention.					
Ingestion May dizzi	Y BE ABSORBED! Fernails. Blue skin.	Blue lip	os or	Protective clothing.		s and	clothes. l wash ski	contaminated Rinse and then n with water or Refer for medical					
dizzi	Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.						water for remove of	te with plenty of several minutes; contact lenses if ssible; seek attention.					
dizziness, vomiting, weakness, and the laboratory.						nk in		outh. Induce g. Rest. Refer for attention.					
Carcinogenicity Possi	sible carcinogen.			Mutager	nicity		Dossible	mutagen.					

Abbreviations:

				Nor	borne	ne					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
498-66-8	solid	N/A	sharp	-14	96	44–46	N/A	N/A	N/A	insoluble	
Types Hazard/Ex		Acut	e Hazards/	Sympton	ns	Prev	ention		First	Aid/Fire	
may ignite at distant ignition sources. <i>no</i> cont surfaces					No flames, no contact surfaces.		sano	Regular dry chemical, sand, earth, regular foam water			
Inhalation Irritation.					Ventilation exhaust.	ı, local	imn	Remove from exposur immediately; get mediatention.			
Skin		Irritation.			Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes	Eyes Irritation.					Safety gog	gles.	with rem poss	water ove consible, ar	wash eyes for several min, tact lenses if ad seek medical amediately.	
Ingestion Do not eat or drin the laboratory.						head	d lower	occurs, keep than hips; get ention, if			
Carcinogenicity Not a known carcinogen. Mutagenicity						Not	a know	n mutagen.			

Abbreviations:

	exo-Norborneol CAS No. DS Color Odor ED DD MD d VD VD Sol												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	• VD	Sol			
497-37-0	solid	white	N/A	N/A	176– 177	124-126	N/A	N/A	A N/A	slightly soluble			
Types Hazard/Ex		Acu	te Hazards/	Symptor	ns	Prevention First Aid/							
Fire	Moderate fire hazard.						es, <i>no</i> sp ct with l		Carbon dioxide, regular chemical powder, foam, water.				
Inhalation	May be harmful.					Ventilati exhaust.	on, loca	1		from exposure ately; get medical			
Skin	Irritation, may be harmful if absorbed through skin.				orbed	Protective clothing.	e gloves	s and	clothes a	contaminated and jewelry, aly wash skin with			
Eyes	Eyes Irritation.					Safety go	oggles.		with wat remove possible	thly wash eyes ter for several min, contact lenses if , and seek medical a immediately.			
Ingestion	Ingestion May be harmful.					Do <i>not</i> e the labor		nk in	head lov	ing occurs, keep ver than hips; get attention, if			
Carcinogenicity Not a known carcinogen.						Mutager	nicity		Not a kn	own mutagen.			

Abbreviations:

				N	ylon-6,1	0				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
9008-66-6	solid	white	N/A	N/A	N/A	N/A	1.040	N/A	A N/A	insoluble
Types Hazard/Ex		ls/Sympt	toms	Prev	ention		Fi	rst Aid/Fire		
Fire		oxic fum	es under	No open fl sparks.	ray, carbon dry chemical r appropriate					
Inhalation	May be harmful by inhalation. Do a breathe vapor.					Ventilation exhaust.	n, local	1	breathing	to fresh air. If g is difficult, give Seek medical
Skin		May cause	skin irrita	ation.		Protective clothing.	gloves a	3	with soap	tely flush skin o and copious of water for at ninutes.
Eyes	Eyes May cause eye irritation.					Safety goggles.		1	with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. lical advice.
Ingestion	Ingestion May be harmful if swallowed.					Do <i>not</i> eat the laborat		1	22 5 4422 5	wed wash out ith water. Call a 1.
Carcinogeni		Mutageni	city	1	Not a kno	own mutagen.				

Abbreviations:

			Petr	oleu	m ethe	r 30-60				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
68476-50-6	liquid	colorless	hydrocarbon	-46	30–40	N/A	N/A	N/A	N/A	insoluble
Types Hazard/Ex		Acut	te Hazards/Sy	ms	Preve	ention		Fi	rst Aid/Fire	
Fire		considerate source and	hazard; vapo ble distance to flash back, co may occur und	on er	No flames, no sparks, no contact with hot surfaces. Carbon dioxide, dry chemical powder or appropriate foam.					
Inhalation			rmful if inhale the upper res			Ventilation exhaust.	, local		breathing	to fresh air. If g is difficult, give Seek medical
Skin		May cause	skin irritation	1.		Protective clothing.	gloves		with soap	tely flush skin p and copious of water for at minutes.
Eyes May causes eye irritation.						Safety goggles.			with cop water lift lower lid	tely flush eyes ious amounts of ting upper and s occasionally. dical advice.
Ingestion		Symptoms	rmful if swalle s of exposure r ession and diar	nay in	clude	Do <i>not</i> eat the laborate			mouth w	wed, wash out ith water. Seek attention.
Carcinogeni	wn carcinogen		Mutagenicity Not a known mutagen.				own mutagen.			

Abbreviations:

Types of Hazard/Exposure Fire Moo may Inhalation Seven men head voir diant Skin Local	orless ta	Odor	ı	henol											
Types of Hazard/Exposure Fire Moo may Inhalation Seven men head voir diant Skin Local	orless ta														
Types of Hazard/Exposure Fire Moo may Inhalation Sever men head vom diant Skin Local			rr	BP	MP	d	VP	VD	Sol						
Hazard/Exposure Fire Moo may Inhalation Sever men head vom diam Skin Local	white	r-like	79	182	40–42	1.071	0.35 @ 25	3.24	6.7%						
Inhalation Sever men head vom diam	Acute Ha	azards/S	Sympton	ns	Preve	ention		First Aid/Fire							
Skin Several S	derate fire h ignite at d				No flames, no contact surfaces.			chemical, n, alcohol am.							
Loc	ere irritatio nbranes, pr dache, inter niting, abdo rhea.	ofuse sv ise thirs	veating, t, nausea	,	Ventilation exhaust.	, local	ediatel at rest,	om exposure y; keep warm get medical nmediately.							
endi skin	al anesthes lless burns ings, readil causing sy lation.	due to d y absorb	amage to	nerve gh the	Protective g clothing.	gloves an	cloth thore wate	nes and oughly er, get n	ntaminated jewelry, wash skin with nedical nmediately.						
visio								water ove con ible, sention in	wash eyes for several min, tact lenses if ek medical nmediately, and wash eyes						
or d tach com	acted llapse,	Do <i>not</i> eat the laborate		imm or m occu	ilk; if	ysician y. Give water vomiting p head lower									
Carcinogenicity Not	rointestinal														

Abbreviations:

	Phenolphthalein VAS No. DS Colon Odon ED DD MD d V/D V/D Sol											
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
77-09-8	solid	colorless	N/A	N/A	N/A	261	1.3	N/A	N/A	soluble		
	es of Exposure	Acut	e Hazard	s/Symp	toms	Preve	ention		Fir	st Aid/Fire		
Fire	•	Flammable fire conditi		oxic fum	nes under	Avoid heat flames.	, sparks,	di po	ioxide, o	ray, carbon dry chemical r appropriate		
Inhalation		May be irr	itating if i	nhaled.		Ventilation exhaust.	, local	bı	Remove to fresh air. If breathing is difficult, gi oxygen.			
Skin		Irritating to	the skin.			Protective g clothing.	gloves a	w ar le	rith soap mounts east 15 n	ely flush skin and copious of water for at ninutes. Remove ated clothing.		
Eyes		Vapor or n	nist is irrit	ating to	the eyes.	Safety gogg	gles.	Ir w w lo	nmediat rith copi rater lift	ely flush eyes ous amounts of ing upper and s often. Seek		
Ingestion Toxic, harmful if swallov				allowed		Do <i>not</i> eat the laborate		m	5	wed wash out th water. Call a		
Carcinoge	nicity	Possible ca	rcinogen			Mutagenic	ity	N	ot a kno	wn mutagen.		

Abbreviations

				Ph	enylhydraz	ine						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
100-63-0	liquid	colorless	faint aromatic	88	243.5	19	1.1	1 @ 71.8		slightly soluble in hot water		
Types (Hazard/Exp		Acı	ute Hazard	s/Sym	ptoms	Pı	reventio	on	First Aid/Fire			
Fire		Combustible fumes (or ga			ng or toxic	sparks,	mes, <i>no</i> , <i>no</i> cont ot surfac			ray, alcohol- foam, powder, ioxide.		
Inhalation		Coughing. L Cyanosis.	abored brea	athing.	Sore throat.	Ventila exhaus	ation, lo	cal		r, rest. Refer for attention.		
Skin		MAY BE A Pain.	BSORBED	! Dry s	skin. Redness.	Protect and clo	tive glovothing.	/es	clothes.	contaminated Rinse skin with water or shower. dical attention.		
Eyes		Redness. Pa		Safety	goggles		water for remove of easily po	se with plenty of several minutes; contact lenses if essible; seek attention.				
Ingestion	Abdominal pain. Diarrhea. Nausea. Vomiting. Weakness. Vertigo.						eat or d		Rest. Reattention	efer for medical		
~										-		
Carcinoge	nicity	Not a known	n carcinoger	1.		Mutag	enicity		Possible mutagen.			

Abbreviations:

			Phen	ylhydr	azine hy	drochlori	de					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
59-88-1	solid	white	N/A	N/A	N/A	250	N/A	N/A	N/A	soluble		
	es of Exposure	Acu	ls/Sympt	toms	Prev	ention		First Aid/Fire				
Fire	•	Flammab fire condi	le. Emits t tions.	oxic fum	nes under	Avoid hea flames.	t, sparks,	d p	ioxide,	ray, carbon dry chemical r appropriate		
Inhalation May be irritating if inhaled.						Ventilation exhaust.	n, local	b	Remove to fresh air. If breathing is difficult, giv oxygen.			
Skin		Irritating	to the skin.			Protective clothing.	gloves a	w an le	vith soar mounts east 15 r	tely flush skin o and copious of water for at ninutes. Remove ated clothing.		
Eyes		Vapor or	mist is irrit	tating to	the eyes.	Safety gog	Safety goggles.			tely flush eyes ous amounts of ting upper and s often. Seek advice.		
Ingestion Toxic, harmful if swallowed.					Do <i>not</i> eat the laborat		n		wed, wash out ith water. Call a ı.			
Carcinogenicity Carcinogen					Mutageni	city	N	lot a kno	own mutagen.			
		5				- 7						

Abbreviations

				Phen	yl Isocy	anate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol		
103-71-9	liquid	colorless	N/A	51	62–64	-30	1.093	2.8	3 N/A	decomposes		
	es of Exposure	Acut	te Hazard	s/Symp	toms	Prev	ention		First Aid/Fire			
Fire		Flammabl toxic fume				Avoid hea flames.	t, sparks	,		lioxide, dry powder or ate foam.		
Inhalation	Inhalation Very toxic if inhaled. May cause sensitization.						n, local			to fresh air. If g is difficult, give		
Skin		Very toxic cause sens				Protective clothing.	gloves a	nd	Immedia with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes	Lachrymator. Vapor or mist is irritating to the eyes.					Safety gog	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion Toxic, harmful if swallowed.						Do <i>not</i> eat the laborat		c in		wed wash out ith water. Call a 1.		
Carcinoge	nicity	Not a know	vn carcino	ogen.		Mutageni	citv		Not a kno	own mutagen.		

Abbreviations:

			Phe	enylma	ngnesium	Bromide	.					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
100-58-3	solid	white	N/A	-17	N/A	N/A	1.14	N/A	A N/A	decomposes		
	es of Exposure	Acı	ute Hazard	s/Symp	toms	Prevention First Aid/Fire						
Fire		under fire	ammable. e conditions vith water.			Avoid heat flames.	, sparks		Carbon dioxide, dry chemical powder or appropriate foam.			
Inhalation	1		if inhaled. ry system.	Very irr	ritating to	Ventilation exhaust.	, local			to fresh air. If g is difficult, give		
Skin		Caustic v	vill burn sk	in.		Protective g clothing.	gloves a		with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove atted clothing.		
Eyes	Vapor or mist burns eyes.						gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion Harmful if swallowed.						Do <i>not</i> eat the laborate				wed wash out ith water. Call a 1.		
Carcinoge	enicity	Probable	carcinogen			Mutagenic	ity		Not a kno	own mutagen.		

Abbreviations:

				Phtha	lic Anhy	dride					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
85-44-9	solid	white	N/A	N/A	284	131–133	1.494	< 0.01	1 5.1 decomposes		
	es of Exposure	Acı	ute Hazard	ls/Symp	toms	Preve	ention		Fi	rst Aid/Fire	
Fire	•	Flammab fire cond	ole. Emits itions.	toxic fun	nes under	Avoid heat flames.	, sparks	d p	ioxide,	ray, carbon dry chemical or appropriate	
Inhalation	1		narmful if in natory systen		rritating	Ventilation exhaust.	, local	b		to fresh air. If g is difficult, give	
Skin		Irritating	to the skin			Protective § clothing.	gloves a	w an le	vith soap mounts east 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.	
Eyes Vapor or mist may be irritating to the eyes.						Safety gogg	gles.	In w w lo	mmedia vith cop vater lift	tely flush eyes ious amounts of ting upper and s often. Seek	
Ingestion May be harmful if swallowed.						Do <i>not</i> eat the laborate		n		wed wash out ith water. Call a	
Carcinoge	nicity	Not a kno	own carcino	ogen.		Mutagenic	eity	N	lot a kn	own mutagen.	

Abbreviations:

					Picric Acid							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
88-89-1	crystalline solid	yellow	odorless	150	explodes above 300	122	1.77	N/A	A N/A	moderate (1- 10%)		
	oes of Exposure	A	cute Hazaı	rds/Syr	mptoms	Pı	reventio	n	First Aid/Fire			
Fire			le solid. Dosed to hea		us fire hazard. ime.	sparks,	nes, <i>no</i> con ot surfac		Fight fire from protected location or maximum possible distance. <i>Do no</i> use carbon dioxide or halogenated extinguishin agents.			
Inhalatio	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Systemic poisoning can cause headache, dizziness, nausea, vomiting, abdominal pain and diarrhea.					Ventila exhaus	ation, lo t.	cal	breathing	to fresh air. If g is difficult, give Get medical		
Skin		include re cause alle	ergic skin re through th	ing, ar	d pain. May	Protect and clo	ive glovothing.	ves	with pler least 15 removing clothing medical	tely flush skin nty of water for at minutes while g contaminated and shoes. Get attention. Keep nated clothing wet oving.		
Eyes	Fume is irritating to the eyes. Splasher can cause eye injury.				es. Splashes	Safety	goggles	i.	with pler least 15: lower an occasion	tely flush eyes aty of water for at minutes, lifting d upper eyelids ally. Get medical immediately.		
Ingestion	Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Other symptoms may parallel those from inhalation.				de nausea, er symptoms		eat or c aborato		induce v large qua	wed, do <i>not</i> omiting. Give intities of water. ical attention.		
Carcinog	rcinogenicity Not a known carcinogen.						enicity		Possible	mutagen.		

Abbreviations:

				(+)-0	x-Pine	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
7785-70-8	liquid	colorless	petroleum- like	32	154– 156	N/A	0.857- 0.862	N/A	N/A	insoluble
Types Hazard/Ex		Acu	te Hazards/	Sympton	ns	Prev	ention		First	t Aid/Fire
Fire		Severe fire may ignite			No flames, no contact surfaces.		cart	on dio	sistant foam, xide, regular dry vater for	
Inhalation	Inhalation Irritation, destruction to tissue, burning sensation, coughing, wheezing, shortness of breath, dizziness, headache, nausea, and vomiting.					Ventilatior exhaust.	ı, local	imn		om exposure y; get medical
Skin		be absorbe	dermal erupted through sl detailed in ir	kin and c	ause	Protective clothing.	clot	hes and oughly	ontaminated l jewelry, wash skin with	
Eyes	Eyes Irritation and burning sensation.					Safety gog	afety goggles.		n water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion	Effects as detailed in inhalation.					Do <i>not</i> eat the laborate		hea med	d lower	g occurs, keep than hips; get ention, if
Carcinogeni	city	Not a know	wn carcinoge		Mutagenio	city	Not	a know	n mutagen.	

Abbreviations:

				Poly	ystyrei	ne				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
9003-53-6	solid	colorless to white	odorless	345– 360	N/A	86-91	1.04– 1.13	N/A	N/A	insoluble
Types Hazard/Ex		Acut	e Hazards/	Symptor	ns	Prev	ention		First	Aid/Fire
Fire		Slight fire	hazard.			No flames, no contact surfaces.		cart		y chemical, xide, water, m.
Inhalation		Irritation a		Ventilation exhaust.	ı, local	imn		om exposure y; get medical		
Skin		N/A				Protective clothing.	gloves an	clot	hes and oughly	ontaminated l jewelry, wash skin with
Eyes	Eyes Irritation.						gles.	with rem poss	n water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion Irritation.						Do <i>not</i> eat the laborate		head	d lower lical att	g occurs, keep than hips; get ention, if
Carcinogeni	Carcinogenicity Possible carcinogen. Mutagenicity Not a known mutagen.									

Abbreviations:

			Potass	sium Bro	omide				
CAS No. PS	Color	Odor	FP	BP	MP	d	VF	P VD	Sol
7758-02-3 solid	white	odorless	N/A	1435	734	2.750	<0.0	01 N/A	soluble
Types of Hazard/Exposure	First Aid/Fire								
Fire Non-flammable. Emits toxic fumes under fire conditions. NA Use extinguishing age appropriate for surrounding fire.									
Inhalation		narmful if in ntory system		rritating	Ventilation exhaust.	n, local			to fresh air. If g is difficult, give
Skin	Irritating	to the skin			Protective clothing.	gloves a		Immedia with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.
Eyes							tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion	May be h	narmful if sv	wallowed	1.	Do <i>not</i> earthe laborat		c in		wed wash out ith water. Call a 1.
Carcinogenicity	Not a kne	own carcino	ngan		Mutageni	oity		Not a kno	own mutagen.

Abbreviations:

		Potassium tert-Butoxide CAS No. PS Color Odor FP BP MP d VP VD Sol											
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
865-47-4	solid	white	N/A	N/A	N/A	256 to 258 (dec)	1.850	850 1 @ N/A N/A					
	Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure												
Fire Flammable. Emits toxic fumes under fire conditions. Flammable. Emits toxic fumes under flames. Avoid heat, sparks, flames. Water spray, carbon dioxide, dry chemical powder or appropriate foam.									dry chemical				
Inhalation	1		if inhaled. ry system.	Very irr	itating to	Ventilation exhaust.	, local	b		to fresh air. If g is difficult, give			
Skin		Caustic,	may burn s	kin.		Protective clothing.	gloves a	nd I v a l	mmedia vith soap mounts east 15 r	tely flush skin o and copious of water for at minutes. Remove lated clothing.			
Eyes Vapor or mist may be irritating to the eyes. Vapor or mist may be irritating to the leyes. Safety goggles. Immediately flush eye with copious amount water lifting upper an lower lids often. Seek medical advice.							tely flush eyes ious amounts of ing upper and s often. Seek						
Ingestion		Harmful	if swallowe	ed.		Do <i>not</i> eat the laborate		n		wed wash out ith water. Call a 1.			
Carcinoge	nicity	Not a kno	own carcino	ogen.		Mutagenio	eity	N	Not a kno	own mutagen.			

Abbreviations:

			Po	otassi	um Carbo	onate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P	VD	Sol
584-08-7	solid	colorless or white	odorless	N/A	decompose	es 891	2.29	N/	/A	N/A	112% @ 20
Types Hazard/Ex		Acu	ite Hazards	s/Symp	otoms	Pre	vention			First	Aid/Fire
Fire		Negligible	fire hazard.			N/A		a	appr	extingu opriate ounding	
Inhalation			coughing, c e mucous n edema.			Ventilati exhaust.	on, local	j	imm	ediatel	om exposure y; get medical nmediately.
Skin		Severe pai	n, burns, an	d brow	vnish stains.	Protective and cloth		1	cloth thorowate	nes and oughly er, get r	ntaminated jewelry, wash skin with nedical nmediately.
Eyes								for several min, stact lenses if ek medical nmediately,			
Ingestion		membrane laryngitis, profuse sal	pain, corro s, shortness headache, r livation, and o swallow o	of brea ausea, l diffici	vomiting, ulty or	Do <i>not</i> e in the lab	at or drin ooratory.	i	imm or m occu	ediatel	ysician y. Give water vomiting p head lower
Carcinogeni	citv	Not a knov	vn carcinog	en.		Mutager	nicity		Not	a know	n mutagen.

Abbreviations:

			Potas	sium Ch	loride						
CAS No. PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7447-40-7 solid	white	1.984	N/A	A N/A	soluble						
Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure											
Fire Non-flammable. Emits toxic fumes under fire conditions. Avoid heat, sparks, flames. Water spray, carbon dioxide, dry chemical powder or appropriate foam.											
Inhalation											
Skin	Irritating	to the skin			Protective clothing.	gloves a		with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes Vapor or mist may be irritating to the eyes. Safety goggles. Immediately flush eyes with copious amounts of water, lifting upper and lower lids often. Seek medical advice.											
Ingestion	May be h	armful if s	wallowe	d.	Do <i>not</i> eat the laborate				wed, wash out ith water. Call a 1.		
G	N	•				•,	1.	NT . 1			
Carcinogenicity	Not a kno	own carcino	ogen.		Mutagenio	eity		Not a kn	own mutagen.		

Abbreviations:

			P	otassiu	ım Ferri	icyanide				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
13746-66-2	solid	orange	N/A	N/A	N/A	N/A	1.850	N/A	N/A	soluble
Types Hazard/Ex		Acı	ıte Hazard	ls/Symp	toms	Prev	ention		Fi	rst Aid/Fire
Fire Non-flammable. Emits toxic fumes under fire conditions. NA Use extinguishing age appropriate for surrounding fire.										ite for
Inhalation			if inhaled. ry system.	Very irr	itating to	Ventilation exhaust.	n, local		Remove	to fresh air. If g is difficult, give
Skin		Irritating	to the skin			Protective clothing.	gloves a		with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.
Eyes Vapor or mist may be irritating to the eyes. Safety goggles. Immediately with copious water lifting lower lids of							tely flush eyes ious amounts of ing upper and s often. Seek advice.			
Ingestion		Harmful	if swallowe	ed.		Do <i>not</i> eat the laborat				wed wash out ith water. Call a 1.
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.										

Abbreviations:

			Potas	ssium Fl	uoride				
CAS No. PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol
7789-23- solid 3	white	N/A	N/A	860	2.480	N/A	A 2	soluble	
Types of Hazard/Exposure	Acı	ute Hazard	ls/Symp	otoms	Preve	ention		Fi	rst Aid/Fire
Fire	Non-flan under fire	Use extinguishing ag appropriate for surrounding fire.							
Inhalation		armful if ir to respirato			Ventilation exhaust.	oxygen.			
Skin	Irritating	to the skin			Protective golden.	gloves a	nd	with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.
Eyes	Dust, vapor, or mist may be irritating to the eyes. Safety goggles. Immediately flush with copious amount water lifting upper lower lids often. Safety goggles. medical advice.							tely flush eyes ious amounts of ting upper and s often. Seek	
Ingestion	Harmful	if swallowe	ed.		Do <i>not</i> eat the laborate		in		wed wash out ith water. Call a 1.
Carcinogenicity	Not a kno	own carcino	ogen.		Mutagenio	eitv		Not a kn	own mutagen.

Abbreviations:

			P	otassi	um Hydro	oxide					
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P	VD	Sol
1310-58-3	1310-58-3 solid off-white odorless N/A 1316 360 2.044 1.0 @ 719										52%
Types of Acute Hazards/Symptoms Prevention First Aid Hazard/Exposure											Aid/Fire
Fire Negligible fire hazard. N/A Use extinguishing appropriate for surrounding fire.											for
Inhalation		burns of th	coughing, concerning the coughing in the chest.			Ventilation exhaust.	on, local	i	imm	ediatel	om exposure y; get medical nmediately.
Skin		Severe pai	n, burns, an	d brow	nish stains.	Protective and cloth		1	cloth thorowate	es and oughly r, get r	ntaminated jewelry, wash skin with nedical nmediately.
Pain, burns, edema, destruction of epithelium, permanent opacity, and blindness. Safety goggles. Thoroughly wash ey with water for seven remove contact lens possible, seek medicate attention immediate continue to wash ey with water.									for several min, ntact lenses if sek medical nmediately, wash eyes		
Ingestion		membrane	pain, corro s, profuse sa or inability	alivatio		Do <i>not</i> each in the lab		i	imm or m occu	ediatel	ysician y. Give water vomiting p head lower
Carcinogeni	city	Not a know	vn carcinog	en.		Mutager	nicity		Not	a know	n mutagen.

Abbreviations:

				Potas	ssium Iod	ide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7681-11-0	solid	colorless to white	odorless	N/A	1330	681	3.13 @ 15	1 @ 745	N/A	127.5%		
Types Hazard/Ex		Acu	te Hazards	s/Symp	otoms	Pre	vention		First Aid/Fire			
Fire Negligible fire hazard. N/A Use app										uishing agents for g fire.		
Inhalation		Irritation, o	coughing, ar	nd ches	t	Ventilati exhaust.	on, local	imn		om exposure y, get medical		
Skin		Pimples, b		blister	s, black and	Protective and cloth		clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes	Eyes Irritation, redness, pain, corrosive. Sa								n water ove con sible, an	wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion		Gastrointer vomiting.	stinal upset,	nausea	a, and	Do <i>not</i> e in the lab	at or drinl ooratory.	imn ther von	n starch niting o	ysician y. Give milk solution; if ccurs, keep than hips.		
Carcinogeni	city	Not a know	vn carcinog	en.		Mutager	nicity	Not	a knov	vn mutagen.		

Abbreviations:

			Pot	assiun	n Permai	nganate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
7722-64-7	solid	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	soluble
Types Hazard/Ex		Acu	ite Hazard	s/Symp	toms	Pre	vention		First	Aid/Fire
Fire			fire hazard contact wi			Avoid co combusti materials	ble	appı	exting opriate ounding	
Inhalation		pain in the	abored brea nose, mou e mucous r	th and the	hroat, and	Ventilatie exhaust.	on, local	imn and	nediatel at rest;	om exposure y, keep warm get medical nmediately.
Skin		Burns, red	ness, and p	ain.		Protective gloves and clothing. Remove contaminated clothes and jewelry, thoroughly wash skin w water, get medical attention immediately.				jewelry, wash skin with nedical
Eyes		Burns, red blurred vis	ness, pain, ion.	lacrimat	ion, and	Safety go	oggles.	with rem poss	water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion		difficulty s	ion, nausea peaking or ure can cau nage.	swallov	ving.	Do <i>not</i> each in the lab		imm or n occu	nediatel nilk; if	ysician y. Give water vomiting p head lower
Carcinogenio	city	Not a know	vn carcinog	gen.		Mutager	nicity	Poss	ible mı	ıtagen.

Abbreviations:

				1-P	ropan	ol							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
71-23-8	liquid	clear	alcohol	23	97	-127	0.804	21 @ 25					
	es of Exposure	Acute Hazards/Symptoms Prevention							First	Aid/Fire			
Fire			hazard. Va e at distant			No flames, no sparks, no contact with hot surfaces.							
Inhalation	1	act as an u Symptoms the eyes, r	ve a mild na apper respirate s may inclusionse, and the and uncoor	atory tract de irritatio roat, drov	irritant. on of	Ventilation exhaust.	, local	brea	athing i	fresh air. If s difficult, give all a physician.			
Skin		irritation.	agent. May Skin absorp otoms parall exposure.	tion may	occur	Protective clothing.	gloves an	imr with leas con	nediatel n plenty et 15 mi taminat	contact, ly flush skin of water for at nutes. Remove ed clothing and a physician.			
Eyes		Splashes r	e irritating t nay cause s ing, tearing	evere irrit	ation,	Safety gog	gles.	with leas low occ	Immediately flush eyes with plenty of water for least 15 minutes, lifting lower and upper eyelids occasionally. Get medic attention immediately.				
Ingestion		drowsines	se nausea, vomiting, ss, gastrointestinal pain, and diarrhea. Do <i>not</i> eat or dr the laboratory.					wat		amounts of ink. Get ention.			
Carcinoge	Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.								utagen.				

Abbreviations:

				2-	Propan	ol				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
67-63-0	liquid	colorless	alcoholic	12	82.4	-89.5	0.7855	40 @ 24	2.1	soluble
Type Hazard/E		Acut	Prev	ention		First	t Aid/Fire			
Fire			hazard. Vap at distant ig			No flames, no contact surfaces.		cart		sistant foam, xide, regular dry vater
Inhalation		and large a	chest tightne amounts may similar to a	y cause	;	Ventilation exhaust.	ı, local	imn		om exposure y, get medical
Skin		amounts n	contact dern nay result in acute ingest	sympt		Protective clothing.	gloves an	clot	hes and oughly	ontaminated l jewelry, wash skin with
Eyes			transitory in itis, iritis, a		neal	Safety gog	gles.	with rem pos	n water ove co	y wash eyes for several min, ntact lenses if nd seek medical
Abdominal pain, nausea, vomiting, and hemorrhage, hypoglycemia, tenderness and edema of muscles, and arrhythmias, vomiting with aspiration may cause aspiration pneumonia. Central nervous system depression may occur with headache and dizziness. Do not eat or drink in the laboratory. If vomiting occurs keen head lower than hips medical attention, if needed.						than hips, get				
Carcinogen	icity	Not a know	vn carcinoge	en.		Mutagenio	eitv	Not	a know	n mutagen.

Abbreviations:

				Pr	opylene (Slycol						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VF		VD	Sol	
57-55-6	oily liquid	clear	odorless	23	99	-59	1.0361	0.12 @ 2		2.6	miscible	
	oes of Exposure	Acı	ıte Hazard	s/Sym	ptoms]	Prevention			Fi	rst Aid/Fire	
Fire		Can supp	ort combus	stion.			nes, <i>no</i> spa tact with ho s.			nical, foam, water n dioxide.		
Inhalatio	n	No adver inhalation	se health ef	fects vi	a	Ventila exhaus	ation, local t.		exp	to fresh air. Not to require first-ures.		
Skin			ant and def y on prolon			Protect clothin	ive gloves g.	and	clot soar 15 i atte	thing. p and minut ention	any contaminated Wash skin with water for at least es. Get medical if irritation or persists.	
Eyes		May caus tearing.	se transitory	stingi	ng and	Safety	goggles.		develops or persists. In case of contact, immediately flush eyes with plenty of water for least 15 minutes, liftin upper and lower eyelid occasionally. Call a physician if irritation persists.			
Ingestion		sizable ar cause sor temporar depressio		r 100m testinal rvous s ppear n	l) may upset and system nore severe		eat or drin oratory.	k in	Not expected to require first aid measures. Give several glasses of water t drink to dilute. If large amounts were swallowed get medical advice.			
Carcinog	in individuals with kidney problems. get medical advice. arcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.								mutagen.			

Abbreviations:

				Py	yridine	:				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
110-86-1	liquid	colorless	N/A	20	115– 116	N/A	0.978	18 @ 20	2.72	soluble
	es of Exposure	Acut	e Hazards	/Sympton	ms	Prev	rention	First Aid/Fire		
Fire		Severe fire may ignite				No flames, no sparks, no contact with hot surfaces. Alcohol resistant foa carbon dioxide, regul chemical, water for cooling.				
Inhalation	ı	Irritation, u mouth, nar drowsiness	cosis, dizzi	iness,	e	Ventilation exhaust.	ı, local	im		om exposure y; get medical
Skin		Redness, ir photosensi- reactions, a	tivity and s	ensitizati		Protective clothing.	gloves an	clo tho	thes and	ontaminated l jewelry, wash skin with
Eyes		Irritation and corneal damage.							y wash eyes for several min, ntact lenses if nd seek medical nmediately.	
Ingestion		Nausea, fat vomiting, a			sion,	Do <i>not</i> eat the laborat		or occ	milk; if	ysician y. Give water vomiting p head lower
Carcinoge	nicity	Not a know	vn carcinog	en.		Mutageni	city	Pos	ssible m	utagen.

Abbreviations:

				R	esorcino	ol					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
108-46-3	solid	white	N/A	170	280	110–113	1.327	1	3.8	220%	
	es of Exposure	Acı	ute Hazard	s/Sympt	oms	Preve	ention		Fi	rst Aid/Fire	
Fire		Flammab fire condi	ole. Emits t itions.	oxic fun	nes under	Avoid heat, flames.	, sparks,	1	dioxide,	ray, carbon dry chemical r appropriate	
Inhalation	1	Harmful respirator	Irritating	g to	Ventilation exhaust.	, local	1	Remove to fresh air. If breathing is difficult, giv oxygen.			
Skin		Irritating	to the skin	•		Protective g clothing.	gloves a	; ;	with soap amounts least 15 1	tely flush skin o and copious of water for at minutes. Remove lated clothing.	
Eyes	Vapor or mist may be irritating to the eyes.						gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek	
Ingestion		Toxic, ha	rmful if sw	allowed.		Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a n.	
Consiners	minite:	Not a l-				Mutagania	:4	1,	Not a 1	arrin muitagan	
Carcinogenicity Not a known carcinogen. Mutage									inoi a Kno	own mutagen.	

Abbreviations:

		p-F	Rosanilin	ne Hydi	rochlori	de (Basic	Fuchsi	in)			
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol	
569-61-9	solid	green	N/A	N/A	N/A	250	1.22	N/.	A N/A	0.1-0.5 g/100 mL	
	oes of Exposure	Acı	ıte Hazaro	ds/Symp	toms	s Prevention First Aid					
Fire		Flammab fire condi	toxic fur	nes under	Avoid hear flames.	t, sparks		dioxide,	ray, carbon dry chemical r appropriate		
Inhalation	alation Irritant, may be harmful if inhaled.						ı, local			to fresh air. If g is difficult, give	
Skin		Irritant, n	nay be har	mful to t	he skin.	Protective clothing.	gloves a	and	Immedia with soap amounts least 15 i	tely flush skin o and copious of water for at ninutes. Remove lated clothing.	
Eyes	Vapor or mist is irritating to the eyes, may be harmful.						gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek	
Ingestion		May be h	armful if s	wallowe	d.	Do <i>not</i> eat the laborat		c in	If swallo	wed wash out ith water. Call a	
Carcinogenicity Possible carcinogen Mutagenicity Possible mutagen											

Abbreviations:

				Sa	ılicylami	de						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
65-45-2	solid	white	N/A	N/A	181.5 @ 14 torr	140–144	1.351	N/A	N/A	2.511 g/L		
	es of Exposure	Acı	ute Hazard	ls/Symp	toms	Preve	ention		Fi	rst Aid/Fire		
Fire Flammable. Emits toxic fumes under fire conditions. Flammable. Emits toxic fumes under flames. Avoid heat, sparks, flames. dioxide, dry or powder or applications.									dry chemical			
Inhalation	Inhalation Harmful if inhaled. Irritating to respiratory system.							1	Remove to fresh air. If breathing is difficult, gi oxygen.			
Skin		Irritating	to the skin	•		Protective g clothing.	gloves a		with soaj amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes Vapor or mist may be irritating to the eyes. Safety goggles.							Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek				
Ingestion		Toxic, ha	ırmful if sw	allowed		Do <i>not</i> eat the laborate				wed wash out ith water. Call a 1.		
Carcinogo	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.											

Abbreviations:

				S	Salicylic A	Acid						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VI)	Sol	
69-72-7	fine crystals	white	odorless to slight phenolic	157	211	157– 159	1.44	1 torr 114		3	1 g/460 mL	
	oes of Exposure	Acı	ıte Hazard	s/Sym _]	ptoms]	Prevention	l	First Aid/Fire			
Fire		Combust	ible.				nes, <i>no</i> spa tact with he		Carbon dioxide, water spray, powder.			
Inhalatio	n	Cough. S	ore throat.			Ventila exhaus		Fresh air, rest. Refer for medical attention.				
Skin		Redness.				Protect	ive gloves g.	and	clothes	s. F	contaminated Rinse and then n with water and	
Eyes		Redness,	pain.			Safety	goggles.		water fremove	or e c pos	e with plenty of several minutes; ontact lenses if ssible; seek attention.	
Ingestion		Nausea, v	vomiting, ea	ar ringi	ng.		eat or drin oratory.	k in	vomiti	ng	outh. Induce . Refer for attention.	
Carcinog	medical attention. arcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.											

Abbreviations:

			Semic	arbazio	de Hyd	lrochlorid	le					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
563-41-7	solid	white	N/A	N/A	N/A	N/A	N/A	N/A	N/A	soluble		
Typ Hazard/l	es of Exposure	Acut	e Hazards/	Sympton	ms	Prev	ention		First	Aid/Fire		
Fire		Slight fire	hazard.			No flames, no contact surfaces.		cs, Carl dry	Carbon dioxide, regular dry chemical.			
Inhalation	l		omiting, fev on, weaknes			Ventilation exhaust.	ı, local	imn	Remove from exposure immediately; get medical attention.			
Skin		Irritation.				Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes		Redness ar	nd irritation			Safety gog	gles.	with rem poss	water ove cor sible, ar	wash eyes for several min, ntact lenses if nd seek medical nmediately.		
Ingestion			omiting, sor pain, and d			Do <i>not</i> eat the laborat		imm amo activ whe	nediatel unts of vated ch n vomi	ysician y. Give large water or narcoal slurry; ting occurs, lower than hips.		
Carcinoge	nicity	Possible ca	arcinogen.			Mutagenio	city	Poss	sible m	utagen.		

Abbreviations:

				Sili	con Dio	xide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
112926-00-8	solid	white	odorless	N/A	N/A	N/A	2.6	N/A	N/A	N/A		
Types o		Acı	ute Hazard	s/Symp	toms	Preve	ention		First Aid/Fire			
Fire Non-flammable. Emits toxic fumes under fire conditions.										nguishing agents ate for ing fire.		
Inhalation			if inhaled. ry system.	g to	Ventilation exhaust.	, local	l	Remove to fresh air. If breathing is difficult, giv oxygen.				
Skin		Irritating	to the skin.	•		Protective g clothing.	gloves a	\ a 1	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove atted clothing.		
Eyes	•	Safety gogg	gles.] \ \ 1	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek						
Ingestion		May be h	armful if sv	wallowe	d.	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a		
Carcinogenia	ite.	Not a lene	our caraina	gan		Mutagenie	it.	l r	Not a kny	own mutagan		
Carcinogenic	CarcinogenicityNot a known carcinogen.MutagenicityNot a known mutagen.											

Abbreviations:

				Silve	r Nitr	ate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7761-88-8	liquid	colorless	N/A	N/A	440	212	4.352	N/A	N/A	soluble		
Types Hazard/Ex		Acut	e Hazards/	/Sympton	ns	Prev	ention		First	Aid/Fire		
Fire		Negligible explode on materials.				Avoid concombustible		ıls appı	Use extinguishing agents appropriate for currounding fire.			
Inhalation		Irritation, s shortness o vomiting.				Ventilation exhaust.	ı, local	imm and med	Remove from exposure immediately, keep warm and at rest, and get medical attention immediately.			
Skin		Irritation, r and discold		n, ulcerat	ion,	Protective clothing.	cloti thor wate	hes and oughly	ntaminated jewelry, wash skin with nedical help y.			
Eyes Irritation, redness, pain, burns, discoloration, and blindness.						Safety gog	gles.	with rem poss atter	n water ove cor sible, se ntion in	wash eyes for several min, ntact lenses if eek medical nmediately, wash eyes		
Ingestion		Burning mouth and throat, salivation, violent abdominal pain and rigidity, diarrhea, headache, nausea, vomiting, and cyanosis.			idity,	Do <i>not</i> eat the laborat		imn wate	er; if vo	ysician y. Give salt omiting occurs, ower than hips.		
Carcinogen	icity	Not a know	n carcinog	en.	_	Mutagenio	city	Poss	sible m	utagen.		

Abbreviations:

				Sodi	um					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
7440-23-5	metal	light, silvery white	odorless	115	881.7	97.8	0.968	1.2 @ 400	0.003	decomposes violently in water
Types Hazard/Ex		Acu	te Hazards/	Sympton	ms	Prev	ention		First .	Aid/Fire
Fire		react vigor acids to re hydrogen. oxidants. I moist air o	e solid, waterously with valease flamm. Dangerous i May ignite sor oxygen. May sextinguishe	water, ste able/expl n presen pontane Iay re-ig	eam, losive ce of ously in	Avoid ope sparks. Ke water.		sand meta dry X TM foar chei	l, graphi al-fire-ex powder : . Do <i>no</i> n, carbon	a ash, dry salt, te powder or stinguishing such as Met-L- of use water, in dioxide, dry chlorinated shers.
Inhalation		on the mucrespiratory include irr	produces da cous membr tract. Symp itation of the l labored bre	anes and otoms ma e nose ar	upper ay	Ventilation exhaust.	n, local	air.		emove to fresh lical attention
Skin		to almost water, esp metal igni	can cause s immediate re ecially on m tes, very dee ruction can	Protective clothing.	gloves an	from imm with leas cont show	n skin the nediately n plenty of t 15 min	flush skin of water for at utes. Remove d clothing and		
Eyes			May cause sion, and dar ali burns.		Safety gog	gles.	with leas low occa	plenty of the plant of the plan	flush eyes of water for at utes, lifting oper eyelids . Get medical mediately.	
Ingestion		Extremely dangerous, corrosive material. Will react immediately with saliva to cause serious burns and possible local combustion.				Do <i>not</i> eat the laborat		indu larg Get	ice vomi e quantit	l, do <i>not</i> ting. Give ies of water. attention
Carcinogeni	icity	Not a know	wn carcinog	en.		Mutageni	city	Not	a knowr	ı mutagen.

				Sodiu	m Ac	etate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
127-09-3	solid	N/A	N/A	N/A	N/A	324 decomposes	1.528	N/A	N/A	soluble	
Types Hazard/Ex		Acute	e Hazards/	Sympton	ns	Prevent	tion		First Aid/Fire		
Fire		Slight fire	hazard.			Avoid heat, sp flames.	void heat, sparks, ames. Regular dry chemicarbon dioxide, waregular foam				
Inhalation		Irritation, of breath	coughing, a	nd shortr	ness of	Ventilation, lo exhaust.	imm		om exposure y, get medical		
Skin		Irritation				Protective glov clothing.	ves and	cloth	nes and oughly	ntaminated jewelry, wash skin with	
Eyes		Irritation				Safety goggles	i.	with remo	wash eyes for several min, ttact lenses if ad seek medical nmediately.		
Ingestion		Abdomina	I pain and v	vomiting		Do <i>not</i> eat or of the laboratory.		head	l lower	occurs, keep than hips; get ention, if	
Carcinogeni	icity	Not a know	vn carcinog	en.		Mutagenicity		Poss	sible m	utagen.	

Abbreviations:

			Sodiu	ım Ace	tate, T	rihydrate	,			
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
6131-90-4	solid	N/A	odorless	N/A	123	58	1.45	N/A	N/A	76.2% @ 0
Types Hazard/Ex		Acut	te Hazards/	Symptor	ns	Preve	ention		First	Aid/Fire
Fire		Slight fire	hazard.		carb		y chemical, xide, water, m.			
Inhalation		Irritation, breath.	nd shortn	ortness of Ventilation, local exhaust. Remove from eximmediately; get attention.						
Skin		Irritation.				Protective g	gloves an	clot	hes and	ntaminated jewelry, wash skin with
Eyes	yes Irritation.					Safety gogg	gles.	with rem poss	water ove consible, an	wash eyes for several min, ntact lenses if nd seek medical nmediately.
					Do <i>not</i> eat the laborate		head	l lower lical att	occurs, keep than hips; get ention, if	
Carcinogenio	city	Not a know	vn carcinoge	en.		Mutagenic	eitv	Not	a know	n mutagen.

Abbreviations:

			S	odium	Bicarl	oonate					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
144-55-8	solid	white	odorless	N/A	N/A	300	2.159	N/A	N/A	10%	
Types Hazard/Ex		Acut	te Hazards/	Sympton	ms	Prev	ention		First	Aid/Fire	
Fire		Negligible	fire hazard.			N/A Use extinguishing age appropriate for surrounding fire.					
Inhalation		Irritation,	sore throat, a	and coug	hing.	Ventilation exhaust.	ı, local	imn	Remove from exposure immediately; get medical attention.		
Skin		Irritation.		Protective clothing.	gloves an	clotl	hes and oughly	ntaminated jewelry, wash skin with			
Eyes		Irritation,	redness, and	Safety gog	gles.	with reme poss	Thoroughly wash ey with water for sever remove contact lens possible, and seek n attention immediate				
Ingestion	IIIIta		rritation of the mouth, esophagus, and tomach. Alkalosis.			Do <i>not</i> eat the laborat		head	l lower	occurs, keep than hips; get ention, if	
Carcinogeni	city	Not a know	wn carcinoge		Mutageni	city	Poss	sible m	utagen.		

Abbreviations:

				So	dium Bisul	fite						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7631-90-5	solid	white	N/A	N/A	decomposes	decomposes	1.32	N/A	N/A	soluble		
Types Hazard/Ex		Acu	ite Hazai	rds/Syı	mptoms	Prevent	ion		First .	Aid/Fire		
Fire		Negligible	fire haza	ard.		N/A		appr	Use extinguishing agents appropriate for surrounding fire.			
Inhalation		Irritation, shortness			ghing, and	Ventilation, le exhaust.	ocal	imm	Remove from exposure immediately; get medical attention.			
Skin		Irritation,	corrosion	1.		Protective glo	oves and	cloth	nes and j oughly v	ntaminated jewelry, wash skin with		
Eyes		Irritation, irregularit	corrosion y of the c	, and g orneal	grayness and epithelium.	Safety goggle	with remo	Thoroughly wash eye with water for severa remove contact lense possible, and seek m attention immediatel				
Ingestion		experience include br	nausea. T g respirat e hyperse onchospa	hose wory connictivities of the work with the work with the work work with the work work with the work work work with the work work work work work work work work		Do <i>not</i> eat or the laboratory		or m	ilk; if v	sician Give water comiting head lower		
Carcinogeni	city	Not a kno	wn carcir	ogen.		Mutagenicity	7	Not	a knowi	n mutagen.		

Abbreviations:

	Sodium Borohydride CAS No. PS Color Odor FP BP MP d VP VD Sol											
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
16940-66-2	solid	white, off-white	odorless	318	N/A	300–400 decomposes	1.07 4	N/A	1.3	55% @ 25		
Types Hazard/Ex		Acu	te Hazar	ds/Syr	nptoms	Prevent	ion		First .	Aid/Fire		
Fire		Moderate:	fire hazard	l .		No flames, no no contact wi surfaces.			Regular dry chemical, sand, lime, soda ash			
Inhalation		Severe irri			at, coughing, adache	Ventilation, lo exhaust.	ocal	imm and	Remove from exposure immediately; keep warn and at rest, get medical attention immediately.			
Skin		Chemical systemic p absorption	oisoning		,	Protective glo	oves and	cloth thore	nes and joughly ver, and g	taminated ewelry, wash skin with et medical mediately.		
Eyes		Severe irri thermal bu		chem	ical and	Safety goggle	es.	with remo poss atter cont	water for the control of the control	wash eyes or several min, act lenses if k medical mediately, and wash eyes		
Ingestion			dizziness,		in, diarrhea, orrosion of	Do <i>not</i> eat or the laboratory		or m	Contact physician immediately. Give water or milk; if vomiting occurs, keep head lower than hips.			
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									ı miitagen			

Abbreviations:

	Sodium Bromide CAS No. DS Colon Odor ED DD MD d VD VD Sol													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol				
7647-15-6	solid	white	odorless	N/A	1390	755	3.210	1 @ 806		116% @ 50				
Types Hazard/Ex		A	cute Hazar	ds/Sym _]	ptoms	Pr	evention		First Aid/Fire					
Fire		Negligib	ole fire hazar	d.		N/A	Use extinappropria							
Inhalation		Irritatior furuncul	n, rashes (esposis).	ecially	acne,	Ventilate exhaust.	ion, local			from exposure tely. Get medical				
Skin		Irritatior furuncul	n, rashes (esposis).	pecially	acne,	Protective	ve gloves	and	clothing, shoes im	contaminated jewelry, and mediately. hly wash with				
Eyes	N/A N/A						oggles.		with water minutes, lenses if	hly wash eyes er for several remove contact possible, and lical attention tely.				
Ingestion		vomiting	ate abdomina g, kidney da ng, paralysis	mage, s	ystemic	Do not et the labor	eat or drin ratory.	k in	head low	ng occurs, keep er than hips. Get attention.				
Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.									mutagen.					

Abbreviations:

				Sodi	um Carbon	ate						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
497-19-8	line to white powder, crystals						2.536	N/A	N/A	7.1% @ 0		
Types Hazard/Ex	s of xposure	Ac	ute Hazaı	rds/Syn	nptoms	Prev	vention		First Aid/Fire			
Fire Negligible fire hazard.						N/A		appr	Use extinguishing age appropriate for surrounding fire.			
Inhalation Irritation, coughing, and shortness breath.					ortness of	Ventilati exhaust.	n exposure ; get medical					
Skin		Irritation a	and redness	S		Protective and cloth		cloth	nes and j oughly v	taminated ewelry, wash skin wit		
Eyes		Severe irri blurred vis	itation, red sion	ness, pa	ain, and	Safety go	oggles.	with remo poss atter cont	water for ove contaible, see ontion im	wash eyes or several mir act lenses if k medical mediately, wash eyes		
throat, gastroin				ne gastric mucosa, sore ntestinal disturbances, ing, abdominal pain, and			Do <i>not</i> eat or drink in the laboratory.		Contact physician immediately. Give or milk; if vomitin occurs, keep head lethan hips.			
Carcinogeni	icity	Not a kno	ogen		Mutage	nicity	Not :	a known	mutagen.			

Abbreviations:

				Sodi	um Chlorate	e					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
7775-09-9	solid	white	N/A	N/A	decomposes	248- 261	2.49	N/A	N/A	79g/100mL @ 0	
Types Hazard/E		Act	ute Hazaı	ds/Syn	nptoms	Pre	vention		First Aid/Fire		
Fire		Negligible explode on materials.					contact ombustibl als	e appr	Use extinguishing agents appropriate for surrounding fire.		
Inhalation		Irritation w headache, o				Ventila exhaus	ation, loca t.	imm	Remove from exposure immediately, get medica attention.		
Skin		Irritation.				Protect and clo	ive glove thing.	cloth	nes and j oughly v	itaminated jewelry, wash skin with	
Eyes		Irritation.				Safety	goggles.	with minu lense seek	water foutes, render if pos	wash eyes or several nove contact ssible, and l attention	
Ingestion		Irritation of abdominal diarrhea.			nal mucosa, miting, and	Do <i>not</i> drink in laborat	n the	imm		sician v. If vomiting head lower	
Carcinogeni	city	Not a know	n carcino	gen.		Mutag	enicity	Not	a knowr	n mutagen.	

Abbreviations:

				Sodiu	ım Chloride	2					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
7647-14-5	crystalline powde	colorless to white	odorless	N/A	1413	801	2.165	N/A	N/A	35.7% @ 0	
Type Hazard/F		Acı	ıte Hazar	ds/Syn	nptoms	Pre	vention		First Aid/Fire		
Fire		Negligible f	fire hazard	l.		N/A		appr	Use extinguishing agent appropriate for surrounding fire.		
Inhalation		Coughing,	dryness, a	nd sore	e throat.	Ventila exhaus	tion, loca	imm		n exposure , get medical	
Skin		Irritation				Protect and clo	ive glove thing.	clotl	hes and j oughly v	taminated lewelry, wash skin with	
Eyes		Redness, pa sensation	ain, irritati	ion and	a stinging	Safety	goggles.	with rem	wash eyes or several min, act lenses if I seek medical		
Ingestion		inflammato	ry reaction inal tract,	n in the	nes, a violent ceration if very	Do <i>not</i> drink in laborat	n the	head	l lower t	occurs, keep han hips; get ntion, if	
Carcinogen	icity	Not a known carcinogen. Mutagenicity Not a known muta						n mutagen.			

Abbreviations:

			So	dium (C itrate, l	Dihydrate)					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
6132-04-3	solid	white	N/A	N/A	N/A	>300	N/A	N/A	N/A	soluble		
Types Hazard/Ex		Acı	ıte Hazard	ls/Symp	toms	Prev	ention		Fi	rst Aid/Fire		
Fire		Flammab fire condi	le. Emits titions.	toxic fun	nes under	Avoid heat flames.	, sparks	1	dioxide,	ray, carbon dry chemical or appropriate		
Inhalation			armful if ir tory systen		rritating	Ventilation exhaust.	ı, local	1	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Irritating	to the skin			Protective clothing.	gloves a	; ;	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes	Eyes Irritating to the eyes.					Safety gogg	gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion		May be harmful if swallowed.				Do <i>not</i> eat or drink in the laboratory.				wed wash out ith water. Call a 1.		
Carcinogenicity Not a known carcinogen. Mu						Mutagenio	city]]	Not a kno	own mutagen.		

Abbreviations:

		Sodi	um Di	chromat	e, Dihydr	ate					
CAS No. PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7789-12-0 solid	red to orange	N/A	N/A	N/A	91	2.350	N/A	A N/A	soluble		
Types of Acute Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure											
Fire	Flammat fire cond combusti	Avoid heat flames.	t, sparks		dioxide,	ray, carbon dry chemical or appropriate					
Inhalation	Harmful	if inhaled,	toxic.		Ventilation exhaust.	ı, local		Remove to fresh air. If breathing is difficult, groxygen.			
Skin	Irritating May be to	to the skin oxic	, may ca	use burns.	Protective clothing.	gloves a	and	Immedia with soap amounts least 15	tely flush skin p and copious of water for at minutes. Remove nated clothing.		
Eyes Irritating to the eyes. May be toxic						gles.		Immedia with cop water lift	tely flush eyes ious amounts of ting upper and s often. Seek		
Ingestion	Harmful	if swallowe	ed.		Do <i>not</i> eat the laborate				wed wash out ith water. Call a 1.		
Carcinogenicity	Carcinog	enic			Mutagenio	rity	Ιτ	Not a kno	own mutagen.		

Abbreviations:

			\$	Sodium	Hydr	oxide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
1310-73-2	solid	white	odorless	N/A	1390	318	2.130	100 (1111		soluble		
Type: Hazard/E		Acu	te Hazards/	Symptor	ns	Prev	ention		Firs	t Aid/Fire		
Fire		Negligible	fire hazard.			N/A		ap	Use extinguishing agents appropriate for surrounding fire.			
Inhalation		sensation, destruction headache,	sore throat, laryngitis, con of mucous nausea, von	coughing membra niting, an	nes,	Ventilation exhaust.	ı, local	im an	Remove from exposure immediately, keep warm and at rest; get medical attention immediately.			
Skin		Redness, of fissures.	cutaneous bu	ırns, and	skin	Protective clothing.	gloves an	clo the wa	othes and proughly iter, get	ontaminated I jewelry, wash skin with medical nmediately.		
Eyes		conjunctive corneal op	tion and slo al and corne acification, e and blindne	eal epithe edema,		Safety gog	wi rea po att	th water nove co- ssible, se ention, o	y wash eyes for several min, ntact lenses if eek medical continue to with water.			
Ingestion	Ingestion Corrosion of the li and pharynx, severe abdominal pain, ar					Do <i>not</i> eat the laborate		im or oc	milk; if	ysician ly. Give water vomiting p head lower		
Carcinogen	icity	Not a know	wn carcinog	en.		Mutagenio	city	No	ot a knov	vn mutagen.		

Abbreviations:

			So	odium 1	Hypoc	hlorite						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7681-52-9	liquid	yellow, green	chlorine- like	N/A	N/A	N/A	1.097	17.5 @ 20				
Type: Hazard/E		Acu	te Hazards/	ns	Prev	ention		First Aid/Fire				
Fire			fire hazard.		Avoid con combustib		ıls app	Use extinguishing agents appropriate for surrounding fire.				
Inhalation		irritation,	rns, severe be sore throat, nausea, and	blistering	,,	Ventilation exhaust.	ı, local	imı	Remove from exposur immediately; get med attention immediately			
Skin		Redness, peczema, ar	pain, blisteri nd chemical	ng, itchy burns.		Protective clothing.	gloves an	clo tho war	thes and roughly ter, and	ontaminated l jewelry, wash skin with get medical nmediately.		
Eyes Severe pain, hemorrhages, corneal opacification, edema, ulceration, and blindness.						Safety goggles.		wit ren pos atte	h water nove con sible, se ention, a	y wash eyes for several min, ntact lenses if eek medical and continue to with water.		
Inflammation of the mouth and digestive system, circulatory collapse confusion, delirium, and drop in blo pressure.						Do <i>not</i> eat the laborat		imi ind mil	uce von k; if vo	ysician ly. Do <i>not</i> niting; give miting occurs, lower than hips.		
Carcinogen	icity	Not a know	wn carcinoge	en.		Mutageni	eity	Pos	sible m	utagen.		

Abbreviations:

				Sodiu	ım Iod	ide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7681-82-5	crystals, powder	colorless to white	odorless	N/A	1304	661	3.67	1 @ 767	N/A	184%		
Type: Hazard/E		Acut	e Hazards/	Sympton	ns	Prev	ention		First Aid/Fire			
Fire		Negligible	N/A		appi	exting ropriate oundin						
Inhalation			Prolonged edism in senses.		may	Ventilation exhaust.	n, local	imn		om exposure y; get medical		
Skin		Irritation.				Protective clothing.	gloves an	clot	hes and oughly	ntaminated jewelry, wash skin with		
Eyes			Safety gog	gles.	with rem poss	n water ove con sible, an	wash eyes for several min, ntact lenses if nd seek medical nmediately.					
Ingestion		Enlargeme lymph gla	nt of salivar	y glands	or	Do <i>not</i> eat the laborat		head	d lower lical att	occurs, keep than hips; get ention, if		
Carcinogen	icity	Not a know	vn carcinoge	en		Mutagenio	rity	Not	a know	n mutagen.		

Abbreviations:

				Sodi	um Lead	Alloy					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol	
12740- 44-2	solid	gray	N/A	N/A	N/A	N/A	N/A	N/A	A N/A	decomposes	
Typ Hazard/l	es of Exposure	Acı	ute Hazard	ls/Symp	toms	Preve	ention		Fir	rst Aid/Fire	
Fire			y flammabler, liberating le gasses.			No open fla sparks, pro moisture.			extinguis	oved class D her or smother sand; do <i>not</i> use CO ₂ .	
Inhalation	l		if inhaled. ry system, c			Ventilation exhaust.	, local		Remove to fresh air. If breathing is difficult, gi oxygen.		
Skin		Very cau	stic, causes	burns.		Protective clothing.	gloves a	and	Immediate with soap amounts least 15 r	tely flush skin o and copious of water for at minutes. Remove ated clothing.	
Eyes		Vapor or	mist very o	caustic to	o the eyes.	Safety goggles.			Immediate with copi water lift	tely flush eyes ious amounts of ing upper and s often. Seek	
Ingestion		Harmful	if swallowe	Do <i>not</i> eat the laborate		c in		wed wash out ith water. Call a			
Carcinoge	nicity	Not a kno	own carcino	ogen		Mutagenio	ity	Ī	Not a kno	own mutagen	
Car Chioge	шсиу	110t a KII	JWII Carcille		muageme	aty		Not a known mutagen.			

Abbreviations:

	Sodium Nitrite													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol				
7632-00-0	solid	colorless to yellow	odorless	N/A	N/A	271	2.168 @ 0	N/A	N/A	82% @ 15				
Type Hazard/E		Acute	e Hazards/	Sympton	ms	Prev	ention		First	t Aid/Fire				
Fire	als app	exting ropriate oundin												
Inhalation		Irritation, so breath.	ore throat, a	and short	ness of	Ventilation exhaust.	ı, local	imn		om exposure y; get medical				
Skin		Redness an	d irritation.			Protective clothing.	gloves ar	clot	hes and	ontaminated Jewelry, wash skin with				
Eyes		Irritation a	nd dilation	of pupils		Safety gog	with rem poss	n water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.					
Ingestion		Gastrointes vomiting, d pains, dizzi lethargy.	iarrhea, and	d abdomi	inal	Do <i>not</i> eat the laborate		head head med	d lower					
	_		_			_								
Carcinogen	Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.													

Abbreviations: CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD = vapor density relative to air (1.0); Sol = solubility in water; N/A = not available or not

applicable.

	Sodium Nitroprusside													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol				
13755- 38-9	solid	dark red	N/A	N/A	N/A	N/A	1.720	N/A	A N/A	soluble				
	oes of Exposure	Acu	ıte Hazard	ls/Symp	toms	Prev	ention		First Aid/Fire					
Fire	•		oustible. E conditions		ic fumes	Avoid heat flames.	, sparks			nguishing media ate to surrounding				
Inhalation	n	Highly to	xic, may b	e fatal if	f inhaled.	Ventilation exhaust.	, local		Remove to fresh air. If breathing is difficult, giv oxygen.					
Skin		Highly to through s	xic, may b kin.	e fatal if	absorbed	Protective clothing.	gloves a	nd	with soap amounts least 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.				
Eyes		thly toxi	c.	Safety gogg	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ting upper and s often. Seek						
Ingestion		Highly to swallowe	oxic, may b d.	e fatal if	f	Do <i>not</i> eat the laborate		in		wed wash out ith water. Call a 1.				
Carcinoge	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.													

Abbreviations:

				Sodiu	m Sul	fate				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
7757-82-6	crystals, powder	white	odorless	884	2.671	N/A	N/A	17% @ 20		
Types of Hazards/Symptoms Prevention First Aid/Fire										
Fire Negligible fire hazard. N/A Use extinguishing agent appropriate for surrounding fire.										for
Inhalation Irritation. Ventilation, local exhaust. Remove from exposur immediately; get mediatention.										
Skin		Irritation.				Protective clothing.	gloves an	clot	hes and oughly	ontaminated l jewelry, wash skin with
Eyes		Irritation.				Safety gog	gles.	with rem poss	n water ove con sible, an	y wash eyes for several min, ntact lenses if nd seek medical nmediately.
Ingestion		Diarrhea, and hypote	fluid loss, biension.	lood in s	tools,	Do <i>not</i> eat the laborat		imn	tact phy nediatel ars, kee n hips.	ysician ly. If vomiting p head lower
Carcinogen	nicity	Known car	rcinogen.			Mutagenio	eity	Kno	wn mu	tagen.

Abbreviations:

				(E)-Stilbe	ne							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
103-30-0	solid	colorless	N/A	N/A	305–307	122–125	0.970	N/A	almost insoluble				
Types Hazard/Ex		Acut	e Hazards	/Sympt	toms	Preve	ention		First	Aid/Fire			
Fire Slight fire hazard. No flames, no sparks, no contact with hot surfaces. Regular dry che carbon dioxide, regular foam.									kide, water,				
Inhalation N/A Ventilation, local exhaust.													
Skin		Irritation.				Protective g clothing.	gloves an	clot	hing, je es imm roughly	ontaminated welry, and ediately. wash with			
Eyes	Eyes Irritation, itching, lacrimation.						gles.	with rem poss imn	n water ove con sible, an	wash eyes for several min, ntact lenses if nd seek medical			
Ingestion		Harmful if	swallowed			Do <i>not</i> eat the laborate		head		occurs, keep than hips. Get ention.			
Carcinogeni	city	Not a know	vn carcinog	en.		Mutagenic	eitv	Pos	sible m	utagen.			

Abbreviations:

				(Z)-	Stilbe	ne							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	VD	Sol			
645-49-8	liquid	pale yellow	N/A	>110	82-84	-5	1.02	N/A	A N/A	insoluble			
Types of Hazards/Symptoms Prevention First Aid/Fire Fire													
Fire Moderate fire hazard. No flames, no sparks, no contact with hot surfaces. Carbon dioxide, regular chemical powder, foam, water.													
Inhalation May be harmful. Ventilation, local exhaust. Remove from exposure immediately; get medicate attention.													
Skin		Irritation, through sk	may be harmfi kin.	ul if abso	orbed	Protective clothing		s and	clothes a	contaminated nd jewelry, nly wash skin with			
Eyes Irritation. Safety goggles.									with wat remove of possible,	hly wash eyes er for several min, contact lenses if and seek te medical			
Ingestion May be harmful. Do <i>not</i> eat or drink in the laboratory.								ink in	head low	ng occurs, keep ver than hips; get attention, if			
Carcinogen	nicity	Not a know	wn carcinogen	l.		Mutagei	nicity		Not a kn	own mutagen.			

Abbreviations:

			d	, <i>l-</i> Still	oene Dil	oromide				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
5789-30-0	solid	white	N/A	N/A	N/A	113–115	N/A	N/A	N/A	insoluble
Types Hazard/Ex		Acut	te Hazard	s/Symp	toms	Preve	ention		Fi	rst Aid/Fire
Fire		Emits toxi conditions		nder fire		Avoid flam and contact surfaces				ray, dry chemical, carbon dioxide.
Inhalation		May be had irritating to Symptoms sensation, laryngitis, headache,	o respirate s may incl coughing, shortness	ory syste ude buri wheezi of breat	m. ning ng, h,	Ventilation exhaust.	from exposure tely, artificial on if needed; get attention.			
Skin		May cause	e skin irrita	ation.*		Protective g clothing.	gloves a	v a le	vith soap mounts east 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.
Eyes	Eyes Lachrymator. Vapor or mist is irritating to the eyes.*						Safety goggles.		mmedia vith cop vater lift	tely flush eyes ious amounts of ing upper and s often. Seek
Ingestion	wallowe ude buri wheezii of breat nd vomit	ning ng, h,	Do <i>not</i> eat the laborate		n		wed, wash out ith water. Call a ı.			
Carcinogeni	city	Not a know	wn carcino	gen.*		Mutagenic	ity	ı	Not a kno	own carcinogen*

^{*}Toxicological information for the listed chemical is *not* available. Information given pertains to *meso-stilbene dibromide* and is intended to be used for comparison of a similar compound. Other effects may result from contact, inhalation, or ingestion.

Abbreviations:

			me	eso-Sti	lbene Di	ibromide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
13440-24-9	solid	white	N/A	N/A	N/A	241	N/A	N/A	N/A	insoluble		
Types Hazard/Ex		Acu	te Hazard	ls/Symp	toms	Prev	ention		Fi	rst Aid/Fire		
Fire		Emits toxi conditions		nder fire		Avoid flam and contac surfaces				ray, dry chemical, carbon dioxide.		
Inhalation		May be had irritating to Symptoms sensation, laryngitis, headache,	o respirato s may incl coughing, shortness	ory syste ude burn wheezin of breat	m. ning ng, h,	Ventilation exhaust.	n, local	i 1	Remove from exposure immediately, artificial respiration if needed; get medical attention.			
Skin		May cause	e skin irrita	Protective clothing.	gloves a	; ;	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove nated clothing.				
Eyes	Lachrymator. Vapor or mist is irritating to the eyes.						gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek		
Ingestion May be harmful if swallowed. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.						Do <i>not</i> eat the laborate		1		wed, wash out ith water. Call a 1.		
Carcinogeni	city	Not a know	wn carcino	gen		Mutagenio	city]	Not a kno	own carcinogen		

Abbreviations:

				;	Styrene							
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
100-42-5	liquid	colorless	varying	31	145–146	-31	0.909	0 10 @ 3.6 0.029				
Types of Hazards/Symptoms Prevention First Aid/Fire												
Fire		SEVERE fi ignite at dis		rs or gases may arces.	sparks, contact	No flames, no sparks, no contact with hot surfaces. Regular dry cl carbon dioxide cooling, regul						
Inhalation		concentration	ng, central	nervo	igue, difficulty in ervous system exhaust.					m exposure r; get medical		
Skin		defatting an	d degreas may resul	ing of	inflammation, the skin; mptoms given	Protect and clo	clotl	nes and j oughly v	ntaminated jewelry, wash skin with			
Eyes	Eyes Irritation, redness, pain, lacrimation, blurred vision, and slight reversible condamage.							with remo	water fove containing in the c	wash eyes or several min, act lenses if d seek medical mediately.		
Ingestion		Irritation of gastrointest in inhalatio	inal tract,		at, and emptoms given	Do <i>not</i> drink in laborat	n the	head	l lower t ical atte	occurs, keep han hips; get ntion, if		
Carcinogen	nicity	Suspected c	arcinogen			Mutag	enicity	Kno	wn muta	agen.		

Abbreviations:

				Su	ecinic A	cid						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
110-15-6	solid	white	N/A	N/A	235	187-190	1.55	0.009	9 N/A	56.5 g/L		
	es of Exposure	Acı	ıte Hazard	ls/Symp	toms	rst Aid/Fire						
Fire	•	Flammab fire condi	toxic fur	mes under	Avoid heat flames.	, sparks	1	dioxide,	ray, carbon dry chemical r appropriate			
Inhalation	1	Irritating	if inhaled,	may be	toxic.	Ventilation exhaust.	, local	1	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Irritating	to the skin	Protective g clothing.	gloves a	; ;	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove sated clothing.				
Eyes		Vapor or the eyes.	erely irr	itating to	Safety gogg	gles.]	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek			
Ingestion		May be h	armful if s	wallowe	d.	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a n.		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.								own mutagen.				

Abbreviations:

				Suc	rose						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
57-50-1	crystals	N/A	N/A characteristic caramel N/A N/A 160- 1.59 N/A N/A 1.3							1.5 g/0.5 mL	
Types of Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure											
Fire		Not cons	idered to be a fir	re hazar	d.	N/A		appr	Use extinguishing agent appropriate for surrounding fire.		
Inhalation		Nuisance concentra	cted to be a hear dust. Inhalation ations may cause piratory tract in	n of high e coughi	ı	Ventila exhaus	tion, loca	med	ical atte	resh air. Get ntion for any fficulty.	
Skin		No adver	se effects expect	ed.		Protect and clo	ive glove thing.	es Not first	Not expected to require first-aid measures.		
Eyes			se effects expec chanical irritation	effects expected but dust may unical irritation.				runn med	ing wat	ighly with er. Get ice if irritation	
Ingestion			y large oral dosa estinal disturban		y produce	Do <i>not</i> drink in laborate	n the	swal	llowed, ; k and ge	unts were give water to et medical	
									_		
Carcinogen	Carcinogenicity Not a known carcinogen. Mutagenicity Possible mutagen.										

Abbreviations:

				Sulf	fanilamide						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
63-74-1	solid	id white odorless N/A N/A 165- 1.08 N/A N/A							7.5%		
Types of Hazards/Symptoms Prevention First Aid/Fire Hazard/Exposure											
Fire		Negligible	N/A		appr	Use extinguishing as appropriate for surrounding fire.					
Inhalation		Harmful.			Ventila exhaus	tion, locat.	imm		n exposure ; get medical		
Skin		Irritation.				Protect and clo	ive glove thing.	cloth	nes and j oughly v	taminated ewelry, wash skin with	
Eyes		Irritation.				Safety	goggles.	with remo	water for ove contains and ible, and	wash eyes or several min, act lenses if I seek medical mediately.	
Ingestion		nnorexia, v ness.	g, dizziness,	Do <i>not</i> drink in laborate	n the	imm sodi solu occu		. Give			
						•					
Carcinogen	icity	Possible ca	rcinogen.			Mutag	enicity	Poss	ible mu	tagen.	

Abbreviations:

				3-S	ulfole	ne					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VI	P VD	Sol	
77-79-2	crystals	off- white	N/A	N/A	65–66	N/A	N/A	A N/A	soluble		
Types of Acute Hazards/Symptoms Prevention First Aid/Fire											
Hazard/Exposure											
Fire Moderate fire hazard. No flames, no sparks, no contact with hot surfaces. Carbon dioxide, rechemical powder, water									lioxide, regular powder, foam,		
Inhalation		May be h	armful			Ventilati exhaust.	on, loca	1		from exposure tely; get medical	
Skin		Irritation, through s	may be harmi kin	ul if abs	sorbed	Protective clothing.		s and	clothes a	contaminated nd jewelry, ıly wash skin with	
Eyes		Irritation				Safety go	oggles.		with wat remove of possible.	hly wash eyes er for several min, contact lenses if and seek medical immediately.	
Ingestion		May be h	armful			Do <i>not</i> e the labor		ink in	head low	ng occurs, keep ver than hips; get attention, if	
Carcinoger	Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.										

Abbreviations:

			Sulf	uric Aci	id, Fum	ing					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
Sulfuric acid 7664-93-9 Sulfur trioxide 7446-11-9	liquid	yellow	pungent	N/A	100	N/A	1.84	1	<0.3	reacts violently	
Types o Hazard/Exp		Ac	ute Hazard	ls/Sympto	ms	Pre	vention		First .	Aid/Fire	
Fire Negligible fire hazard.						d. N/A Use extinguish appropriate for surrounding fir					
Inhalation Sore throat, labored breathing, cough choking, chronic respiratory tract damage, and chronic bronchitis.						Ventila exhaus	tion, loca	imm and	ediately at rest, g	m exposure , keep warm get medical mediately.	
Skin		Severe irr	itation, pair	n, and burr	ns.	Protect and clo	ive glove thing.	cloth thor wate	nes and joughly wer, and g	itaminated jewelry, wash skin with et medical mediately.	
Eyes		Severe da	mage and b	lindness.		Safety	goggles.	with remaposs atten cont	water fove containing the water for the wate	wash eyes or several min, act lenses if k medical mediately, and wash eyes	
Ingestion		esophagus	urns of the as, pain in the	e abdomer		Do <i>not</i> drink in laborat	n the	or n	nilk; if v	sician Give water omiting head lower	
Carcinogenicity	y	Known ca	rcinogen.			Mutage	enicity	Not	a knowi	n mutagen.	

Abbreviations: CAS No. = Chemical Abstracts Service Registry Number; PS = physical state; FP = flash point (°C); BP = boiling point (°C) @ 760 torr unless otherwise stated; MP = melting point (°C); d = density or specific gravity (g/mL); VP = vapor pressure (torr) at specified temperature (°C); VD = vapor density relative to air (1.0); Sol = solubility in water; N/A = not available or not

applicable.

			Su	lfuric	Acid Soluti	ons					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol	
7664-93-9	liquid	colorless	N/A	N/A	100	N/A	1.84	1	<0.3	soluble	
						1					
Types Hazard/Ex		Acı	ıte Hazar	ds/Syn	nptoms	Pre	vention		First	Aid/Fire	
Fire		Negligible to explode on materials.				Avoid with co	mbustibl	le appr	Use extinguishing agents appropriate for surrounding fire.		
Inhalation	Irritation, sl breathing, s sensation in cough.	neezing,	a burnir	ng or tickling	Ventila exhaus	tion, loca	imm and	Remove from exposure immediately, keep warn and at rest, get medical attention immediately.			
Skin						Protect and clo	ive glove thing.	cloth thor wate	hes and coughly er, and g	ntaminated jewelry, wash skin with tet medical mediately.	
Eyes Burning or stinging sensation, lacrima blurred vision, and conjunctival congestion.						Safety	goggles.	with remaposs atten cont	n water fove containing water for water for water for water for the wate	wash eyes for several min, tact lenses if ek medical mediately, and wash eyes	
Ingestion Burning pain in the mouth, throat, esophagus and abdomen, nausea, and vomiting. Do <i>not</i> eat of drink in the laboratory.				n the	or n	nilk; if v	sician				
								•			
Carcinogenicity Known carcinogen. Mutagenicity					enicity	Not	a knowr	n mutagen.			

Abbreviations:

				Sulfi	ıryl Chl	oride						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP		Sol		
7791-25- 5	liquid	colorless to pale yellow	sharp	none	68–70	-54	1.680	100 @ 17.8		decomposes		
	oes of Exposure	Acut	te Hazard	s/Symp	toms	Prev	ention		First Aid/Fire			
Fire		Flammable water. Emflammable conditions		Avoid heat flames.	t, sparks		Extinguish with dry chemical extinguisher; do not use water.					
Inhalation	n	Extremely membrane		Ventilation exhaust.	ı, local			to fresh air. If g is difficult, give				
Skin		Causes but through sk		e fatal i	f absorbed	Protective clothing.	gloves a		with soap amounts least 15 i	tely flush skin o and copious of water for at minutes. Remove lated clothing.		
Eyes		ging to the	Safety gog	gles.		Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek					
Ingestion	Ingestion May be fatal if swallowed.						or drink ory.			wed wash out ith water. Call a 1.		
Carcinoge	enicity	Not a know	vn carcino	gen.		Mutagenicity Not a known mutagen.						

				L-T	artaric a	acid					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VF	P VD	Sol	
87-69-4	solid	white	N/A	150	N/A	170–172	1.760	N/A	N/A	soluble	
	es of Exposure	Acı	ute Hazard	ls/Sympt	toms	Prev	ention		First Aid/Fire		
Fire		or by con	ible at elevantact with an aic fumes unes.	n ignitio	n source.						
Inhalation	1	Irritant to	respiratory	system		Ventilation exhaust.	, local		breathing oxygen.	to fresh air. If g is difficult, give Get medical immediately.	
Skin		Irritant to	skin.			Protective clothing.	gloves a	and	with soap	tely flush skin o and copious of water for at minutes.	
Eyes	Eyes Irritant to eyes.						gles.		with cop water lift lower lid	tely flush eyes ious amounts of ing upper and s occasionally. dical advice.	
Ingestion		May be h	armful if sv	wallowed	d.	Do <i>not</i> eat the laborate		k in		wed wash out ith water.	
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									own mutagen.		

Abbreviations:

				Tetrac	chloroet	hylene						
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P VD	Sol		
127-18-4	liquid	none	N/A	None	121	-22	1.623	19	5.83	0.165 g/L		
	Types of Acute Hazards/Symptoms Preve											
	pes of Exposure	Acı	Preve	ention		Fi	rst Aid/Fire					
Fire		mits tox s.	ic fumes	N/A			nguishing media ate to surrounding s.					
Inhalation	nhalation Harmful if inhaled.						, local		Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Harmful	if absorbed	through	skin.	Protective g clothing.	gloves a	and	with soar amounts least 15	tely flush skin p and copious of water for at minutes. Remove nated clothing.		
Eyes	Harmful to the eyes.						gles.		Immedia with cop water lift	tely flush eyes ious amounts of ting upper and ls often. Seek		
Ingestion		Harmful	if swallowe	ed.		Do <i>not</i> eat the laborate		in		wed wash out ith water. Call a n.		
Carcinogenicity Krown carcinogen. Mutagenicity Not a known mutagen.								own mutagen.				

Abbreviations:

				Thion	nyl Chlor	ride					
CAS No.	PS	Color	Odor	FP	BP		MP	d	VP	VD	Sol
7719-09-7		clear, pale yellow	pungent	N/A	76		-105	1.64	100 @ 21	N/A	decomposes
Types of Hazard/Exposur e	•	Acute Ha	nzards/Syi	mptom	ıs	1	Prevent	ion	1	First Ai	d/Fire
Fire	Not considered to be a fire hazard. May react violently with water or moist air. Can liberate flammable hydrogen gas when in contact with metal and moisture.										
Inhalation	Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.					Ventilation, loca exhaust.					air. Get n immediately.
Skin	blister	sive. Liquid oring burns, ir se severely ir	ritation, ar	nd pain	. Vapors		tective g		skin then skin with minutes contamin	n immed n water : while re nated clo et medio	material from liately flush for at least 15 emoving othing and cal attention
Eyes	Corrosive! Vapors are irritating and may caus damage to the eyes. Contact may cause severe burns and permanent eye damage.					Saf	ety gogg	gles.	Immediately flush plenty of water for minutes, lifting lov upper eyelids occa medical attention i		for at least 15 lower and casionally. Get
Ingestion		sive. May ca ninal pain, na				drir	<i>not</i> eat nk in the oratory.		vomiting quantitie	g. Give s of wat	
						1					
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.							ıtagen.				

					Tin					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
7440-31-5	granules or flakes	silvery	odorless	N/A	2507	231.9	7.31	1 @ 1609	N/A	insoluble
Type Hazard/l		nptoms	Prevention First Aid/Fire							
Fire		sufficient resence of an I dust	No ope	aphite, odium ver use water, agents, or or C s.						
Inhalation		No adverse cause mech			but dust may	Ventila exhaust	tion, loca	first Rem med	-aid mea nove to f	resh air. Get ntion for any
Skin		No adverse mild irritati			May cause	Protecti and clo	ive glove thing.	first expo and advi	aid mea	d to require sures. Wash with soap det medical tation
Eyes	No adverse effects expected but dust ma cause mechanical irritation.						afety goggles.		ing wate	ighly with er. Get ice if irritation
Ingestion		Large dose and diarrhe	•	se naus	sea, vomiting,	Do <i>not</i> drink ir laborate	n the	imm	ice vomi iediately ical pers	as directed by
Carcinoger		Mutage	enicity	Not	a knowr	n mutagen.				

Abbreviations:

				Tin ((II) Chl	oride						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
7772-99-8	solid	off-white	N/A	N/A	652	246	3.950	N/A	N/A	decomposes		
Types Hazard/Ex		Acut	te Hazard	ls/Sympt	toms	Prev	vention		Fi	rst Aid/Fire		
Fire		Nonflamm	able.			No open fi sparks, pro moisture.		n s	Media appropriate for surrounding fire. Extinguish with dry chemical powder.			
Inhalation		Extremely membrane		cous	Ventilation exhaust.	n, local	ł	Remove to fresh air. If breathing is difficult, give oxygen.				
Skin		Corrosive,	causes bu	Protective clothing.	gloves a	\ a 1	with soap amounts east 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.				
Eyes		Extremely	destructiv	Safety goggles.			Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek				
Ingestion		Harmful if	swallowe	ed.		Do <i>not</i> eat the laborat		1 1	nouth w provided	wed, wash out ith water person is s. Call a 1.		
Carcinogeni	icity	Not a know	vn carcino		Mutagenicity Not a known mutagen.							

				r	Γoluene					
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
108-88-3	liquid	colorless	distinct	4	110.6	-93	0.865	22 @ 20	3.2	0.05% @ 20
		_								
Type Hazard/I		Acı	ıte Hazar	ds/Syr	nptoms	Pre	vention		First	Aid/Fire
Fire		Severe fire lignite at dis			r gases may irces.	sparks,	with hot	carb	on dioxi	chemical, de, water for ular foam
Inhalation		Fatigue, we nausea, and			n, headache,	Ventila exhaus	ntion, locat.	imm		m exposure r; get medical
Skin		Irritation an	Protect and clo	ive glove thing.	clotl	nes and oughly	ntaminated jewelry, wash skin with			
Eyes	Eyes Irritation and corneal burns.					Safety	goggles.	with remo	water fove contaible, and	wash eyes or several min, act lenses if d seek medical mediately.
Ingestion Abdominal spasms, sy in inhalation, coughing						Do <i>not</i> drink in laborat	n the	imm	tact phy nediately ars keep, hips.	sician v. If vomiting head lower
Carcinogen	icity	Not a know	n carcino	gen.		Mutag	enicity	Poss	sible mu	tagen.

Abbreviations:

				p-	-Toluidii	ne						
CAS No.	PS	Color	Odor	FP	BP	MP	d	V	P	VD	Sol	
106-49-0	solid	colorless	fish-like	88	200	44–46	0.973	N/	/A	3.9	0.664 g/L	
	es of Exposure	Acut	toms	Prev	ention	Fin	rst Aid/Fire					
Fire	•	mes under	Avoid heat flames.	, sparks	,	diox	kide, o der o	ray, carbon dry chemical r appropriate				
Inhalation	halation Harmful if inhaled. Irritating to respiratory system.						, local		Remove to fresh air. If breathing is difficult, giv oxygen.			
Skin		Irritating t	o the skin.			Protective clothing.	nd	with amo leas	n soap ounts t 15 r	tely flush skin o and copious of water for at ninutes. Remove ated clothing.		
Eyes	Vapor or mist may be irritating to the eyes.						gles.		Imm with water lowe	nedia n copi er lift er lid	tely flush eyes ious amounts of ing upper and s often. Seek advice.	
Ingestion	Ingestion Toxic, harmful if swallowed.						or drink ory.	in	mou		wed wash out ith water. Call a n.	
Consinces	minite:	Doggihla a	anain a acr			Mutogoria	.:4		Doss	ibla -	mutagan	
Carcinoge	menty	Possible ca	arcmogen			Mutagenic	ity		POSS	sible 1	mutagen	

Abbreviations:

				Triet	hylene G	Slycol						
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
112-27-6	liquid	colorless	N/A	165	285	-7	1.125	< 0.01	5.2	soluble		
	es of Exposure	Acut	te Hazard	s/Symp	toms	rst Aid/Fire						
Fire									lioxide,	ray, carbon dry chemical or appropriate		
Inhalation	Inhalation Irritant, may be harmful if inhaled.							b	Remove to fresh air. If breathing is difficult, give oxygen.			
Skin		Irritant, m	ay be harr	nful to tl	he skin.	Protective g clothing.	gloves a	a le	vith soap mounts east 15	tely flush skin o and copious of water for at minutes. Remove nated clothing.		
Eyes	Eyes Vapor or mist is irritating to the eyes, may be harmful.						gles.	In w	mmedia vith cop vater lift	tely flush eyes ious amounts of ting upper and s often. Seek		
Ingestion		May be ha	rmful if sv	wallowed	d.	Do <i>not</i> eat the laborate		n		wed wash out ith water. Call a 1.		
Carcinogenicity Not a known carcinogen. Mutagenicity Not a known mutagen.									own mutagen.			

Abbreviations:

				Tı	rimyrist	in				
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol
555-45-3	liquid	colorless	N/A	>110	N/A	56–58	1.080	< 0.0	1 8.95	Insoluble
Type Hazard/E		Acut	te Hazard	s/Sympt	toms	Preve	ention		Fi	rst Aid/Fire
Fire	aposure_	Flammable fire condit		oxic fun	nes under	Avoid heat flames.	, sparks	1	dioxide,	ray, carbon dry chemical or appropriate
Inhalation		Irritant, ma	ay be harn	Ventilation exhaust.	, local	l		to fresh air. If g is difficult, give		
Skin		Irritant, m	ay be harr	Protective § clothing.	gloves a	\ a 1	with soap amounts least 15 p	tely flush skin o and copious of water for at minutes. Remove lated clothing.		
Eyes Vapor or mist is irrita may be harmful.					the eyes,	Safety gogg	gles.] \ \ 1	Immedia with cop water lift	tely flush eyes ious amounts of ing upper and s often. Seek
Ingestion May be harmful if swa					1.	Do <i>not</i> eat the laborate		1		wed wash out ith water. Call a 1.
Carcinogen	nicity	Not a know	ogen		Mutagenic	itv	1	Not a kno	own mutagen.	

Abbreviations:

	Triphenylmethanol											
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VP VD So			
76-84-6	solid	colorless to off- white	N/A	N/A	380	164 1.1999 N/A N/A				insoluble		
Types of Hazard/Exposure		Acı	ıte Hazar	·ds/Syn	nptoms	Pre	evention		First Aid/Fire			
Fire		Slight fire h	sparks,	t with hot	carb	Regular dry chemical, carbon dioxide, water, regular foam.						
Inhalation		May be har	Ventila exhaus	ation, loca	imm	Remove from exposure immediately; get medical attention.						
Skin		May be har	Protect and clo	tive glove othing.	cloth thor	Remove contaminated clothes and jewelry, thoroughly wash skin with water.						
Eyes		Irritation.	Safety	goggles.	with remo	Thoroughly wash eyes with water for several min, remove contact lenses if possible, and seek medical attention immediately.						
Ingestion		May be hard	Do <i>not</i> drink i laborat	n the	head med	If vomiting occurs, keep head lower than hips; get medical attention, if needed.						
Carcinogenicity		Not a know	n carcino	gen.		Mutag	n mutagen.					

Abbreviations:

Urea												
CAS No.	PS	Color Odor FP			BP	MP	d	VP	VD	Sol		
57-13-6	crystals or powder	white	ammonia- like	N/A	Decomposes	135	1.32	N/A	J/A N/A N/A			
	pes of Exposure		Acute Hazard	ls/Sym	ptoms	Pre	evention		First Aid/Fire			
Fire		Not con	sidered to be a	fire ha	zard.	N/A		(Use any means suitable for extinguishing surrounding fire.			
Inhalation		Sympto shortnes	irritation to the ms may includes of breath. Modstream with n.	le coug ay be a	hing, bsorbed into	Ventilation exhaust.	on, local	1	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.			
Skin			irritation to sk redness, itchin	Protectiv clothing.	e gloves	1	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur.					
Eyes		Causes	irritation, redn	Safety goggles.			Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.					
Ingestio	n	tract. Sy vomitin	irritation to the mptoms may g and diarrhea e, confusion and	Do <i>not</i> eat or drink in the laboratory.			Induce vomiting immediately as directed by medical personnel. Get medical attention.					
Carcino	rcinogenicity Not a known carcinogen.						Mutagenicity Possible mutagen.					

Abbreviations:

	m-Xylene										
CAS No.	PS	Color	Odor	FP	BP	MP	VF	• •	VD	Sol	
108-38-3	liquid	clear	aromatic	26	138	-48	0.86	9@1	20 3	3.7	insoluble
		Ţ				Ī			1		
Types Hazard/Ex		Ac	ute Hazards/S	Sympto	ms	Pr	eventio	n		Fin	rst Aid/Fire
Fire		may ignite at distant ignition sources.					es, <i>no</i> spact with		Dry chemical, foam or carbon dioxide.		
Inhalation		Inhalatio to the no high con- nausea, v the ears, difficulti onset	Ventilati exhaust.	1	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Call a physician.						
Skin		Skin con oils and dermatiti the skin.	Protective clothing	s and	Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.						
Eyes		Vapors c cause sev burns and	Safety goggles.			Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.					
Ingestion		Ingestion causes burning sensation in mouth and stomach, nausea, vomiting and salivation.				Do <i>not</i> eat or drink in the laboratory.			Aspiration hazard. If swallowed, do <i>not</i> induce vomiting. Give large quantities of water. Get medical attention immediately. If vomiting occurs, keep head below hips.		
Carcinogeni	icity	Not a kn	own carcinoge	Mutage		Possible mutagen.					

Abbreviations:

	<i>p</i> -Xylene												
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
106-42-3	liquid	clear	aromatic	27.2	138	13–14	0.86	9 torr 20					
		ı				1							
	es of Exposure	A	cute Hazards/	ns	Pı	reventio	on	First Aid/Fire					
Fire			re hazard., vapodistant ignition		No flames, no sparks, no contact with hot surfaces.			Dry chemical, foam or carbon dioxide					
Inhalation	ı	the nose concentr vomiting and seve	on of vapors ma and throat. Inh ations may rest g, headache, rir re breathing di ed in onset.	f high sea, he ears,	exhaus	ation, lo t.	cal	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Call a physician.					
Skin		Skin corroils and dermatit skin.	Protective gloves and clothing.			Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.							
Eyes		Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.					Safety goggles.			Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.			
Ingestion		Ingestion causes burning sensation in mouth and stomach, nausea, vomiting and salivation					Do not eat, drink, or smoke during work.			Aspiration hazard. If swallowed, do <i>not</i> induce vomiting. Give large quantities of water; if vomiting occurs, keep head below hips. Get medical attention immediately.			
		·											
Carcinoge	nicity	Not a kn	own carcinoge		Mutag	enicity		Possible mutagen.					

Abbreviations:

	Xylenes											
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol		
1330-20-7	liquid	clear	aromatic	9	137–140	-25	0.86	8 @ 20	@ 20 3.7 insoluble			
	oes of Exposure	Acute Hazards/Symptoms					evention		First Aid/Fire			
Fire		Severe fire hazard., vapors or gases may ignite at distant ignition sources. No flames, no sparks, no conta with hot surface						ct carb	Dry chemical, foam or carbon dioxide.			
Inhalation		Inhalation of vapors may be irritating to the nose and throat.					ntion, loca t., or ng ion.	air. l give	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Call a physician.			
Skin		Skin contact results in loss of natural oils and often results in a characteristic dermatitis. May be absorbed through skin.					ive glove othing.	plen at le remo	Immediately flush skin wit plenty of soap and water fo at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.			
Eyes		Vapors cause eye irritation. Splashes cause severe irritation, possible corneal burns and eye damage.					goggles.	plen 15 n	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.			
Ingestion		Ingestion causes burning sensation in moutl and stomach, nausea, vomiting and salivation. Minute amounts aspirated into the lungs can produce a severe hemorrhagic pneumonitis with severe pulmonary injury or death.					eat or dr aboratory	vom quar vom	Aspiration hazard. If swallowed, do <i>not</i> induce vomiting. Give large quantities of water. If vomiting occurs, keep head below hips.			
Carcinogen	icity	Not a know	n carcinog	gen.		Mutag	enicity	Poss	ible mu	tagen.		

Zinc Chloride													
CAS No.	PS	Color	Odor	FP	BP	MP	d	VP	VD	Sol			
7646-85-7	crystals	white	odorless	N/A	732	293	2.91	1	1 N/A 432%				
Types of Hazard/Exposure		Ac	ute Hazar	nptoms	Pre	vention		First Aid/Fire					
Fire		Negligible fire hazard.						appr	Use extinguishing agents appropriate for surrounding fire.				
Inhalation		Irritation, r throat, hoa nausea, ab	Ventila exhaus	tion, loca	imm and	Remove from exposure immediately, keep warm and at rest, get medical attention immediately.							
Skin		Irritation, r primary de and ulcerat	Protect and clo	ive glove thing.	cloth thor wate	Remove contaminated clothes and jewelry, thoroughly wash skin with water, get medical attention immediately.							
Eyes		Irritation, p corneal but dermatitis,	Safety	goggles.	with remo poss atter cont	Thoroughly wash eyes with water for several min, remove contact lenses if possible, seek medical attention immediately, and continue to wash eyes with water.							
Ingestion		Irritation o swollen lip nausea, vo	Do <i>not</i> drink in laborat	n the	or m	Contact physician immediately. Give water or milk; if vomiting occurs, keep head lower than hips.							
Carcinogen	icity	Possible ca	ırcinogen.			Mutagenicity Possible mutagen.				tagen.			

Abbreviations: