

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture

Product identifier

Product form Substance
Substance name **PRI 1050**
Product Use Description Solvent

Synonyms
Company ANTISAL 1A / benzene, methyl-/ benzyl hydride/CASWELL no 859/CP 25 /formula no 06500/ methacide/ methane, phenyl-/ methylbenzene / phenylmethane /reference fuel/ Toluene/retinaphtha / solvent toluene /solvesso toluene/tol/toluene/toluene chromasolv/ Toluene pestanal/ toluene regen/ toluene spectranal/toluene, nitration grade / toluene, pure / Toluene, reference fuel / toluol / toluol oil / toluole /tolu- sol

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SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Liq. 2	H225
Skin Irrit. 2	H315
STOT SE 3	H336
STOT RE 2	H373
Asp. Tox. 1	H304

Full text of H-phrases: see section 16

2.2. Label elements

51-45-US labeling

Hazard pictograms (GHS-US)



GHS02

GHS07

GHS08

Danger

H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H373 - May cause damage to organs through prolonged or repeated exposure

Signal word (GHS-US)

Hazard statements (GHS-US)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe mist, spray, vapors
P261 - Avoid breathing mist, spray, vapors
P264 - Wash hands, forearms and face thoroughly after handling

Precautionary statements (GHS-US)

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EN (English US)

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P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P310 - If swallowed: Immediately call a doctor or poison center
P302+P352 - If on skin: Wash with plenty of soap and water for 15 minutes.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call a doctor or poison center if you feel unwell
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see a doctor or poison center on this label)
P331 - Do NOT induce vomiting
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (002), dry extinguishing powder to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition /information on ingredients

3.1. Substance

Name	Product identifier	GirA	Classification (GHS US)
TOLUENE (Main constituent)	(CAS No) 108-88-3	60-90	Elam. Lig. 2, H225 Skin Init. 2, H315
ISOCYANATE PREPOLYMER	NA	10-30	STOT SE 3, H336 STOT RE 2, H373
4-4 DIPHENYLMETHANE DIISOCYANATE	101-68-8	< 1.0°	Asp. Tox. 1, H304

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.

First-aid measures after inhalation

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact

Wash immediately with lots of water, Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Take victim to a doctor if irritation persists.

First-aid measures after eye contact

Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not give milk/oil to drink. Do not induce vomiting. Give activated charcoal. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation

EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Feeling of weakness. Dizziness. Central nervous system depression. Narcosis. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness.

Symptoms/injuries after skin contact

Tingling/irritation of the skin.

Symptoms/injuries after eye contact

Irritation of the eye tissue.

Symptoms/injuries after ingestion

Risk of aspiration pneumonia. Nausea. Abdominal pain. Symptoms similar to those listed under inhalation.

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Chronic symptoms

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Impairment of the nervous system, Tremor. Impaired memory. Impaired concentration. Brain affection. Disturbances of heart rate. Change in the haemogramme/blood composition.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Preferably: alcohol resistant foam. Water spray. BC powder. Polyvalent foam. AFFF foam. Carbon dioxide.

Unsuitable extinguishing media

Container may slop over if solid jet (water/foam) is applied.

5.2. Special hazards arising from the substance or mixture

Fire hazard

DIRECT FIRE HAZARD. Highly flammable, Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard

: DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity

Upon combustion: CO and CO₂ are formed. Reacts violently with (some) halogens. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

5.3. Advice for firefighters

Firefighting instructions

Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.

Protection during firefighting

Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Gloves. Protective goggles. Head/neck protection. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. Large spills/in enclosed spaces: gas-tight suit. See "Material-Handling" to select protective clothing.

Emergency procedures

Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution.

6.3. Methods and material for containment and cleaning up

For containment

Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up

Liquid spill: cover with foam. Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

7.2.

Heat-ignition

Conditions for safe storage, including any incompatibilities

KEEP SUBSTANCE AWAY FROM: heat sources. Ignition sources.

Prohibitions on mixed storage

KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids, halogens.

Storage area

Store at ambient temperature. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Provide the tank with earthing. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. Meet the legal requirements. Keep out of direct sunlight.

Special rules on packaging

SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements.

Packaging materials

Secure fragile packagings in solid containers.

SUITABLE MATERIAL: metal. stainless steel. carbon steel. aluminium. nickel. polypropylene. glass. tin. MATERIAL TO AVOID: polyethylene.

7.3. Specific end use(s)

No additional information available

Diphenylmethane Diisocyanate (MDI) & Polymeric Diphenylmethane Diisocyanate (pMDI)

OSHA:

PEL-C ppm: 0.02

PEL-C mg/m3: 0.2

NIOSH:

REL-TWA ppm:0.005

REL-TWA mg/m3: 0.05

REL-C ppm: 0.02

REL-C mg/m3: 0.2

IDLH mg/m3: 75

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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ACGIH

ACGIH TWA (ppm)

20 ppm

ACGIH

ACGIH STEL (ppm)

20 ppm

ACGIH

Remark (ACGIH)

Visual impair; female repro;

OSHA

Remark (OSHA)

(2) See Table Z-2.

8.2. Exposure controls

Materials for protective clothing

Give excellent resistance: No data available. Give good resistance: Tetrafluoroethylene. Viton. PVA. Give less resistance: butyl rubber. Natural rubber. neoprene. nitrile rubber. polyethylene. neoprene/natural rubber. nitrile rubber.

Hand protection

Gloves.

Eye protection

Safety glasses.

Skin and body protection

Head/neck protection. Protective clothing.

Respiratory protection

Wear gas mask with filter type A if conc. in air > exposure limit.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state

Liquid

Appearance

Liquid

Color

Colorless

Odor

Aromatic odor

Odor Threshold

0.2-69ppm

0.8-276 mg/m3

pH

no data available

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Melting point	-95 °C
Freezing point	No data available
Boiling point	111 °C
Critical temperature	321 °C
Flash point	4 °C
Critical pressure	41077 hPa
Relative evaporation rate (butyl acetate=1)	: 2.24
Flammability (solid, gas)	: No data available
Explosion limits	1.3 - 7 vol % 46 - 270 g/m ³
Explosive properties	No data available
Oxidizing properties	: No data available
Vapor pressure	: 29 hPa
Vapor pressure at 50 °C	109 hPa
Relative density	0.87
Relative vapor density at 20 °C	: No data available
Relative density of saturated gas/air mixture	1.6
Specific gravity / density	870 kg/m ³
Molecular mass	: 92.14 g/mol
Solubility	Insoluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in carbon disulfide. Soluble in acetic acid. Soluble in ethyl acetate. Soluble in petroleum spirit. Water: 0.05 g/100m ³ Ethanol: Complete Ether: Complete Acetone: > 10 g/100m ³
Log Pow	2.73 (Experimental value; Other; 20 °C)
Log Kow	No data available
Auto-ignition temperature	480 °C
Decomposition temperature	No data available
Viscosity	No data available
Viscosity, kinematic	0.690 mm ² /s (20 °C)
Viscosity, dynamic	: 0.0006 Pa.s (20 °C)
9.2. Other information	
Minimum ignition energy	: 0.3 mJ
Specific conductivity	1.0 pS/m
Saturation concentration	110 g/m ³
VOC content	: 100 %
Other properties	Gas/vapour heavier than air at 20 °C. Clear, Volatile. Substance has neutral reaction. May generate electrostatic charges.

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed. Reacts violently with (some) halogens. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.2. Chemical stability

Stable under normal conditions,

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

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11.1. Information on toxicological effects

LD50 oral rat	>2000 mg/kg (Rat;Equivalent or similar to OECD 401; Literature study;5580 mg/kg Bodyweight; Rat; Experimental value.
LD50 dermal rabbit	12223 mg/kg (Rabbit; Literature study; other;> 5000 mg/kg bodyweight; Rabbit; Experiment value
LC50 inhalation rat (mg/l)	> 20mg/l/4h (Rat Literature study)
ATE US (dermal)	12223.000 mg/kg body weight
Skin corrosion/irritation	causes skin irritation.
Serious eye damage/irritation	Not Classified
Respiratory or skin sensitization	Not Classified
Germ cell mutagenicity	Not Classified
Carcinogenicity	Not Classified
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IARC group	3 Not Classified
Reproductive toxicity	Not Classified
Specific target organ toxicity (single exposure)	may cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters pathways.
Symptoms/injuries after inhalation	Exposures to high concentrations: Headache. Nausea. Feeling of weakness. Dizziness. Central nervous system depression. Narcosis. Mental confusion. Drunkenness. Coordination disorders. Disturbed motor response. Disturbances of consciousness.
Symptoms/injuries after skin contact	Tingling / irritation of the skin
Symptoms/injuries after eye contact	Irritation of the eye tissue.
Symptoms/injuries after ingestion	Risk of aspiration pneumonia. Nausea. Abdominal pain. Symptoms similar to those listed Under inhalation.
Chronic symptom composition.	On continuous repeated exposure : Dry skin. Skin rash/ inflammation. Impairment of the nervous system. Disturbances of heart rate. Change in the blood composition.

SECTION 12 Ecological information

12.1, Toxicity

Ecology – general	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology – air fluorinated greenhousegases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/I.	Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of
Ecology – water	Fouling to shoreline. Ground water pollutant. Toxic to fishes. Toxic to invertebrates. Harmful to algae. Inhibits photosynthesis of algae. Harmful to bacteria, Taste alteration in fishes/aquatic organisms.

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LC50 fish 1	24 mg/l 96 h: Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	84 mg/l (24 h; Daphnia magna; Locomotor effect)
LC50 fish 2	13 mg/l (96 h: Lepomis macrochirus)
EC50 Daphnia 2	11.5 - 19.6 mg (48 h; Daphnia magna)
Threshold limit algae 1	> 400 mg/l (168 h; Scenedesmus quadricauda ; Toxicity
Threshold limit algae 2	105 mg/l (192 h; Microcystis aeruginosa)

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12.2. Persistence and degradability

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Persistence and degradability Readily biodegradable in water. Biodegradable in the soil.

Biochemical oxygen demand (BOD) 2.15 g O₂/g substance

Chemical oxygen demand (COD) 2.52 g O₂/g substance

12.3. Bioaccumulative potential

BCF fish 2

BCF other aquatic organisms

BCF other aquatic organisms 2

Log Pow

Bioaccumulative potential

12.4. Mobility in soil

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Surface tension

13.2 (Anguilla japonica)

90 (72 h; Leuciscus idus)

380 (24 h; Chlorella sp.; Fresh weight)

4.2 (Mytilus edulis: Fresh weight)

2.73 (Experimental value; Other; 20°C)

Low potential for bioaccumulation (BCE < 5
0.03 N/m²)

12.5. Other adverse effects No additional information available

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Do not landfill. Incinerate under surveillance with energy recovery. Do not discharge into drains or the environment. May be discharged to company wastewater treatment plant.

Additional information

LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.

SECTION 14 Transport Information

Department of Transportation (DOT)

In accordance with DOT

Transport document description

UN1294 Toluene, 3,11

UN-No.(DOT)

: UN1294

Proper Shipping Name (DOT)

Toluene

Department of Transportation (DOT) Hazard Classes

3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT)

3 - Flammable liquid



• Packing group (DOT) 3 flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx)

II - Medium Danger

DOT Packaging Bulk (49 CFR 173.xxx)

202

DOT Special Provisions (49 CFR 172.102)

242

)DOT Packaging Exceptions (49 CFR 173.xxx)

1B2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2);

Composite (31 HZ1). Additional Requirement: Only liquids with a vapor pressure less than or

DOT Quantity Limitations Passenger aircraft (49 CFR 173.27)

5L

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DOT Quantitv Limitations Caroo aircraft only (49 CFR 175.75) 60 L

DOT Vessel Stowage Location

B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

ADR

Transport document description
UN 1294,3,II

Packing Group II

Class (ADR) 3 Flammable Liquid

Hazard identification number (Kemler No.) 33

Classification Code (ADR) F1

Hazard labels (ADR)

UN1294 Toluene, 3,11

: UN1294

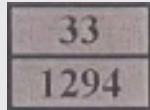
Toluene

3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

3 - Flammable liquid



Orange plates



Tunnel restriction code (ADR)

D/E

Transport by sea

UN-No. (IMDG)

1294

Class (IMDG)

3 - Flammable liquids

EmS-No. (1)

F-E

EmS-No. (2)

S-D

Air transport

UN-No.(IATA)

1294

Class (IATA)

3 - Flammable Liquids

Packing group (IATA)

II - Medium Danger

SECTION 15: Regulatory Info.

15.1. US Federal regulations

TOLUENE (108.88-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of LUSTS)

1000 lb

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2

H225

Repr. 2

H361d

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Asp. Tox. 1 H304
 STOT RE 2 H373
 Skin Init. 2 H315

STOT SE 3 H336
 Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSO] or 1999/45/EC [13PD]

F; R11
 Repr.Cat.3; R63
 Xn; R65
 Xn; R48/20
 Xi; R38
 R67

Full text of R-phrases: see section 16

U.S. - California - Proposition 65 - Carcinogens List		No
U.S. - California - Proposition 65 - Toxicity	Developmental	Yes
U.S. - California - Proposition 65 - Toxicity - Female	Reproductive	Yes
U.S. - California - Proposition 65 - Toxicity - Male	Reproductive	Yes
State or local regulations		U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

National regulations
 No additional information available

15.3. US State regulations

TOLUENE(108-88-3)

SECTION 16 Other information

Full text of H-phrases:

Asp. Tox. 1
 Flam. Liq. 2
 Skin Irrit. 2
 STOT RE 2
 STOT SE 3
 H225
 H304
 H315
 H336
 1-1373

Aspiration hazard Category 1
 Flammable liquids Category 2
 Skin corrosion/irritation Category 2
 Specific target organ toxicity (repeated exposure) Category 2
 Specific target organ toxicity (single exposure) Category 3
 Highly flammable liquid and vapor
 May be fatal if swallowed and enters airways
 Causes skin irritation
 May cause drowsiness or dizziness
 May cause damage to organs through prolonged or repeated exposure

NFPA health hazard

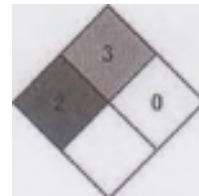
2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity

0 - Normally stable, even under fire exposure conditions, and are not reactive with water_



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HMS III Rating

Health

2 Moderate Hazard - Temporary or minor

Flammability

injury may occur

3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical

0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection

X

X - Special handling directions

