



ACETYL CHLORIDE-D3 (D, 98%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 25/01/2011

Revision date: 01/08/2018

Supersedes: 21/11/2016

Version: 2.1

DLM-247

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : ACETYL CHLORIDE-D3 (D, 98%)
EC Index-No. : 607-011-00-5 (Unlabeled)
EC-No. : 200-865-6 (Unlabeled)
CAS-No. : 19259-90-6
Product code : DLM-247
Formula : CD3COCl

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225
Acute Tox. 4 (Oral) H302
Skin Corr. 1A H314
Eye Dam. 1 H318

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11
Xn; R22
C; R35
Xi; R41
R52

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2 H225
Acute Tox. 4 (Oral) H302
Skin Corr. 1A H314
Eye Dam. 1 H318
Aquatic Acute 3 H402

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

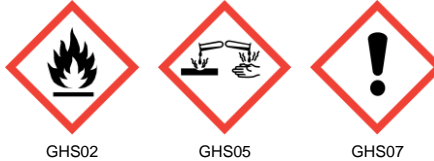
Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

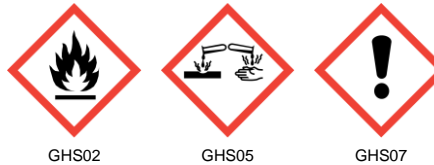
H225 - Highly flammable liquid and vapour
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P260 - Do not breathe fume, mist, spray, vapors.
P264 - Wash both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapour
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H402 - Harmful to aquatic life

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, open flames, sparks. - 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 fume, mist, spray, vapors.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
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
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center or doctor
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use Dry powder. to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
ACETYL CHLORIDE-D3 (D, 98%)	(CAS-No.) 19259-90-6 (EC-No.) 200-865-6 (Unlabeled) (EC Index-No.) 607-011-00-5 (Unlabeled)	100	F; R11 Xn; R22 C; R35 Xi; R41 R52

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ACETYL CHLORIDE-D3 (D, 98%)	(CAS-No.) 19259-90-6 (EC-No.) 200-865-6 (Unlabeled) (EC Index-No.) 607-011-00-5 (Unlabeled)	100	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
ACETYL CHLORIDE-D3 (D, 98%) (Main constituent)	(CAS-No.) 19259-90-6	100	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Symptoms/effects after inhalation	: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Symptoms/effects after skin contact	: May be harmful if absorbed through the skin. Causes skin burns.
Symptoms/effects after eye contact	: Causes eye burns.
Symptoms/effects after ingestion	: May be harmful if swallowed. Causes burns.

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 : Dry powder.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Wear self contained breathing apparatus for fire fighting if necessary.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For containment : Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Flashback possible over considerable distance. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place. Keep away from water. Never allow product to get in contact with water during storage. Hydrolyses readily. Handle and store under inert gas.

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid, clear.

Molecular mass : 81.52 g/mol (Labeled)

Color : Colorless.

Odor : No data available

Odor threshold : No data available

ACETYL CHLORIDE-D3 (D, 98%) DLM-247

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -112 °C (-170 °F) - lit.
Freezing point	: No data available
Boiling point	: 52 °C (126 °F) - lit.
Flash point	: 5 °C (41 °F) - closed cup
Auto-ignition temperature	: 734 °C (1,353 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 805.765 hPa (604.373 mmHg) at 20 °C (68 °F); 2,228.432 hPa (1,671.461 mmHg) at 55 °C (131 °F)
Relative vapor density at 20 °C	: 2.71 - (Air = 1.0)
Relative density	: No data available
Specific gravity / density	: 1.104 g/ml at 25 °C (77 °F)
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 7.3 - 19 % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

One year after receipt of order if stored as stated in "Storage" section. Re-QC after one year.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air. Reacts violently with water.

10.4. Conditions to avoid

Heat, flames and sparks. Exposure to moisture.

10.5. Incompatible materials

Water, Alcohols, Oxidizing agents, Strong bases.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)	
LD50 oral rat	910 mg/kg
ATE CLP (oral)	910.000 mg/kg body weight

Skin corrosion/irritation	: Causes severe skin burns and eye damage. No data available
Serious eye damage/irritation	: Causes serious eye damage. No data available
Respiratory or skin sensitization	: Not available No data available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not classified
Reproductive toxicity	: Not available

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

Safety Data Sheet

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Specific target organ toxicity – single exposure	: Not classified No data available
Specific target organ toxicity – repeated exposure	: Not classified No data available
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Burning sensation. Cough. Wheezing. Laryngitis. Shortness of breath. Spasm. Inflammation and edema of the larynx. Inflammation and edema of the bronchi. Pneumonitis. Pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Symptoms/effects after inhalation	: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Symptoms/effects after skin contact	: May be harmful if absorbed through the skin. Causes skin burns.
Symptoms/effects after eye contact	: Causes eye burns.
Symptoms/effects after ingestion	: May be harmful if swallowed. Causes burns.

SECTION 12: Ecological information

12.1. Toxicity

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)

LC50 fish 1	42 mg/l Pimephales promelas (fathead minnow) - 96 h
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12.2. Persistence and degradability

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)

Persistence and degradability	Not available.
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12.3. Bioaccumulative potential

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)

Bioaccumulative potential	Not available.
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12.4. Mobility in soil

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)

Ecology - soil	Not available.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of an unprofessional handling or disposal. Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT)	: 1717
DOT NA no.	UN1717

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Acetyl chloride
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hazard labels (DOT) : 3 - Flammable liquid
8 - Corrosive



Packing group (DOT) : II - Medium Danger
DOT Special Provisions (49 CFR 172.102) : A3 - For combination packaging, if glass inner packaging (including ampoules) are used, they must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging.
A6 - For combination packaging, if plastic inner packaging are used, they must be packed in tightly closed metal receptacles before packing in outer packaging.
A7 - Steel packaging must be corrosion-resistant or have protection against corrosion.
IB1 - Authorized IBCs: Metal (31A, 31B and 31N). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
T8 - 4 178.274(d)(2) Normal..... Prohibited
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: t_r is the maximum mean bulk temperature during transport, t_f is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (t_f) and the maximum mean bulk temperature during transportation (t_r) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d_{15} and d_{50} are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
TP12 - This material is considered highly corrosive to steel.
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 243
DOT RQ : 5000 lbs
Marine pollutant : No

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II
Class (ADR) : 3 - Flammable liquid
Hazard identification number (Kemler No.) : X338
Classification code (ADR) : FC
Hazard labels (ADR) : 3 - Flammable liquids
8 - Corrosive substances



Orange plates :

Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 1l
EAC : 4WE
APP : A(fl)
Excepted quantities (ADR) : E2

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Transport by sea

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.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

MFAG-No : 155

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 1 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 5 L
CFR 175.75)

Civil Aeronautics Law : Flammable liquids

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

15.2. International regulations

CANADA

ACETYL CHLORIDE-D3 (D, 98%) (19259-90-6)
Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

ACETYL CHLORIDE-D3 (D, 98%)(19259-90-6)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

ACETYL CHLORIDE-D3 (D, 98%)

DLM-247

Safety Data Sheet

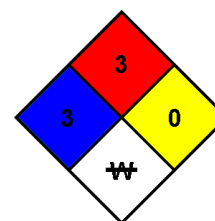
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Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 2	Flammable liquids Category 2
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
R11	Highly flammable
R22	Harmful if swallowed
R35	Causes severe burns
R41	Risk of serious damage to eyes
R52	Harmful to aquatic organisms
C	Corrosive
F	Highly flammable
Xi	Irritant
Xn	Harmful

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.
NFPA specific hazard : W - Materials that react violently or explosively with water.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability : 3 Serious Hazard
Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product