1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 12/17/2010 Revision date: 4/18/2023 Supersedes: 4/22/2016 Version: 5.1

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Substance name	:	1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%)
Chemical name	:	p-Dioxane
CAS-No.	:	123-91-1
Product code	:	DLM-28
Formula	:	C4H8O2
Synonyms	:	Dioxane / Diethylene oxide

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Cambridge Isotope Laboratories, Inc.
50 Frontage Rd
01810
ANDOVER, MA, 01810
USA
T 1-800-322-1174
cilsales@isotope.com - www.isotope.com

1.4. Emergency telephone number

Emergency number	:	1-703-741-5970 Chemtrec 1-800-424-9300 24 hours

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Carcinogenicity Category 2	H351	Suspected of causing cancer (Dermal, Inhalation, oral)
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer (Dermal, Inhalation, oral)

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, open flames, sparks
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.
P261 - Avoid breathing dust, fume, mist, gas, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
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.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a poison center or doctor if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P370+P378 - In case of fire: Use Dry chemical, Alcohol resistant foam, Carbon dioxide. 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 Dispose in a safe manner in accordance with local/national regulations.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (Main constituent)	CAS-No.: 123-91-1	100	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H335

Full text of hazard classes and H-statements : 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 : Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

First-aid measures after eye contact : Flush eye with water for 15 minutes. Get medical attention.

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 (acute and delayed)

Potential Adverse human health effects and symptoms : Nausea. Vomiting. Weakness. Dizziness. Vertigo. Headache. Sweating. Loss of appetite. Kidney injury may occur. Liver injury may occur. 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. Liver - Irregularities - Based on Human Evidence. After absorption: Headache, Dizziness, Nausea, Vomiting. Absorption can result in damage to: Liver, Kidney. Other dangerous properties can not be excluded. This substance should be handled with particular care.

Symptoms/effects : Suspected of causing cancer.

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.

Symptoms/effects after skin contact : May be harmful in contact with skin. May cause moderate irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Suitable extinguishing agents: Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2).

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

Other information : Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Flammable in presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

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 entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent 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 cool, dry and well-ventilated place.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	1,4-Dioxane
ACGIH OEL TWA [ppm]	20 ppm Liver damage. Confirmed animal carcinogen with unknown relevance to humans. Danger of cutaneous absorption.
Remark (ACGIH)	TLV® Basis: Liver dam. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Dioxane (Diethylene dioxide)
OSHA PEL TWA [1]	90 mg/m³ Skin notation.
OSHA PEL TWA [2]	25 ppm Skin notation.
OSHA PEL STEL [1]	360 mg/m³ Skin designation.
OSHA PEL STEL [2]	100 Skin designation.
OSHA PEL C	1 mg/m³ California permissible exposure limits for chemical contaminants (Title 8, Article 107) - Skin
OSHA PEL C [ppm]	0.28 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107) - Skin
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL C	3.6 mg/m³ Potential Occupational Carcinogen. 30 minute ceiling value.
NIOSH REL C [ppm]	1 ppm Potential Occupational Carcinogen. 30 minute ceiling value.

8.2. Appropriate engineering controls

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

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Safety glasses. Gloves. Protective clothing. Respiratory protection of the dependent type.

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.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid.
Color	:	Colorless
Odor	:	No data available
Odor threshold	:	No data available
pH	:	6 – 8 at 500 g/l at 20 °C (68 °F)
Melting point	:	11.75 °C Source: HSDB
Freezing point	:	No data available
Boiling point	:	101.2 °C Source: HSDB
Flash point	:	11 °C at 1013 hPa Source: ECHA
Relative evaporation rate (butyl acetate=1)	:	2.7 Source: HSDB
Flammability (solid, gas)	:	No data available
Vapor pressure	:	38.1 mm Hg at 25°C Source: HSDB
Relative vapor density at 20°C	:	3.03 Source: HSDB
Relative density	:	1.03 Source: HSDB
Density	:	1.03 g/ml at 25 °C (77 °F)
Molecular mass	:	88.11 g/mol Source: HSDB
Solubility	:	Water: 1000 g/l
Partition coefficient n-octanol/water (Log Pow)	:	-0.27 Source: HSDB
Auto-ignition temperature	:	375 °C Source: ECHA
Decomposition temperature	:	No data available
Viscosity, kinematic	:	1270000 mm²/s 20 °C (68 °F)-OECD Test Guideline 114; 0.93 mm2/sat 40 °C (104 °F)-OECD Test Guideline 114
Viscosity, dynamic	:	No data available
Explosion limits	:	2 – 22 % (V) Upper explosion limit: 22 % Source: HSDB
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Additional information	:	Surface tension - 36.9 mN/m at 25 °C (77 °F)

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air. Formation of peroxides possible.

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

Risk of explosion with: Triethylaluminium, Lithium aluminium hydride, Triethylamine, Boranes, Silver perchlorate, Oxygen, Nitric acid with perchloric acid, Raney-nickel with hydrogen. Risk of ignition or formation of inflammable gases or vapours with: fire-promoting substances. Exothermic reaction with: Oxidizing agents, Sulfur trioxide, Acids.

10.4. Conditions to avoid

Warming, Moisture.

10.5. Incompatible materials

Oxygen. Oxidizing agent. Halogens. Reducing agents. Percholates. Trimethylaluminum. Various plastics, Copper compounds.

10.6. Hazardous decomposition products

Peroxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
LD50 oral rat	5150 mg/kg Source: ECHA
LD50 dermal rabbit	2100 mg/kg Source: NLM
LC50 Inhalation - Rat	46000 mg/m³ 2 h - Sense Organs and Special Senses (Nose, Eye, Ear and Taste): Eye: Other.
ATE US (oral)	4200 mg/kg body weight
ATE US (dermal)	7858 mg/kg body weight
ATE US (vapors)	46 mg/l/4h
ATE US (dust, mist)	46 mg/l/4h

Skin corrosion/irritation : Not classified
pH: 6 – 8 at 500 g/l at 20 °C (68 °F)
Serious eye damage/irritation : Causes serious eye irritation.
pH: 6 – 8 at 500 g/l at 20 °C (68 °F)
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer (Dermal, Inhalation, oral).

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation.
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : 1270000 mm²/s 20 °C (68 °F)-OECD Test Guideline 114; 0.93 mm2/sat 40 °C (104 °F)-OECD Test Guideline 114
Potential Adverse human health effects and symptoms : Nausea. Vomiting. Weakness. Dizziness. Vertigo. Headache. Sweating. Loss of appetite. Kidney injury may occur. Liver injury may occur. 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. Liver - Irregularities - Based on Human Evidence. After absorption: Headache, Dizziness, Nausea, Vomiting. Absorption can result in damage to: Liver, Kidney. Other dangerous properties can not be excluded. This substance should be handled with particular care.
Symptoms/effects : Suspected of causing cancer.
Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact : May be harmful in contact with skin. May cause moderate irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
LC50 - Fish [1]	6700 mg/l Source: ECHA
EC50 - Crustacea [1]	255 mg/l Source: ECHA
ErC50 algae	> 1000 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h - (OECD Test Guideline 201)

12.2. Persistence and degradability

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
Persistence and degradability	aerobic - Exposure time 29 d - Result: < 10 %-Not readily biodegradable. (OECD Test Guideline 301F).

12.3. Bioaccumulative potential

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
BCF - Fish [1]	10 mg/l Cyprinus carpio (Carp) - (1,4-Dioxane)
Bioconcentration factor (BCF REACH)	0.3 -0.7 - (OECD Test Guideline 305C)
Partition coefficient n-octanol/water (Log Pow)	-0.27 Source: HSDB
Bioaccumulative potential	Does not bioaccumulate.

12.4. Mobility in soil

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
Ecology - soil	Not available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Waste treatment methods : Burn in a chemical incinerator equipped with an afterburner and a scrubber, but use extra care in ignition as this material may be pyrophoric, highly flammable or explosive. Attention : national and/or local laws and regulations may preclude the use of this method.

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 DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN1165
UN-No. (TDG) : UN1165
UN-No. (IMDG) : 1165
UN-No. (IATA) : 1165

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Dioxane
Proper Shipping Name (TDG) : DIOXANE
Proper Shipping Name (IMDG) : DIOXANE
Proper Shipping Name (IATA) : Dioxane

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 3
Hazard labels (DOT) : 3

TDG

Transport hazard class(es) (TDG) : 3
Hazard labels (TDG) : 3

IMDG

Transport hazard class(es) (IMDG) : 3
Hazard labels (IMDG) : 3

IATA

Transport hazard class(es) (IATA) : 3
Hazard labels (IATA) : 3

14.4. Packing group

Packing group (DOT) : II
Packing group (TDG) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT)	:	UN1165
DOT Special Provisions (49 CFR 172.102)	:	IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	202
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 L
DOT Quantity Limitations Cargo 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.

TDG

UN-No. (TDG)	:	UN1165
Explosive Limit and Limited Quantity Index	:	1 L
Excepted quantities (TDG)	:	E2
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	:	5 L
Emergency Response Guide (ERG) Number	:	127

IMDG

Limited quantities (IMDG)	:	1 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1
EmS-No. (Fire)	:	F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	:	S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	:	B
Flash point (IMDG)	:	12°C c.c.
Properties and observations (IMDG)	:	Colourless liquid with an ether-like odour. Flashpoint: 12°C c.c. Explosive limits: 2% to 22% Miscible with water. Harmful by inhalation.
MFAG-No	:	127

IATA

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L

ERG code (IATA) : 3L

14.7. 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

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%)	123-91-1	Present	Active	

15.2. International regulations

CANADA

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)
Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on TECI (Thailand Existing Chemicals Inventory)

15.3. US State regulations

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
U.S. - California - Proposition 65 - Carcinogens List	Yes
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
No significant risk level (NSRL)	30 µg/day

1,4-DIOXANE-D8 (P-DIOXANE) (D, 99%) (123-91-1)	
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

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 04/18/2023

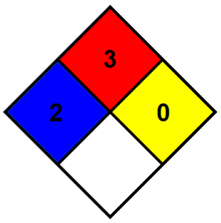
Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the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

Full text of H-phrases	
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H351	Suspected of causing cancer

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual 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.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 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.

Safety Data Sheet (SDS), USA

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.