

# DX1090

## Safety Data Sheet

according to the federal final rule of hazard communication revised on 2021 (HazCom 2021)

Date of issue 08/08/2021

Revision date: 06/12/23

Version 7

**dynax**

### Section 1: Identification of the substance/ mixture and of the company/undertaking

#### 1.1 Product Identifier

Trade name : DX1090

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

Sector of use Product supplied for industrial use only  
Use of the substance/mixture DX1090 is a fluorosurfactant intended exclusively for commercial use as a component for the manufacture of class B firefighting foam concentrates that are used on flammable liquids.

#### 1.3 Details of the supplier of the safety data sheet

DYNAX CORPORATION  
79 Westchester Ave. Pound Ridge NY 10576 USA  
Tel: +1 914-764-0202  
Fax: +1 914-764-0553  
Email: [info@dynaxcorp.com](mailto:info@dynaxcorp.com)  
Website: [www.dynaxcorp.com](http://www.dynaxcorp.com)

#### 1.4 Emergency telephone number

Emergency number CHEMTREC: +1800-424-9300 24 hours

### Section 2: Hazards Identification

#### 2.1 Classification of the substance or mixture

GHS-US Classification

STOT RE 2

Full text of H-phrases: See section 16

H373 May cause damage to organs through prolonged or repeated exposure

#### 2.2 Label elements

GHS-US Labelling

Hazard Pictogram (GHS-US)



GHS08

Signal word (GHS-US)

Hazard Statements (GHS-US)

Precautionary statements (GHS-US)

Warning

H373 May cause damage to organs through prolonged or repeated exposure

P101 – If medical advice is needed, have product container or label

P102 – Keep out of reach of Children

P103 – Read carefully and follow all instructions.

P260 – Do not breathe dust/fumes/gas/mist/vapors/spray

P273 – Avoid release to the environment

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P314 – Get medical advice/attention if you feel unwell.

P501 – Dispose of contents/container to an approved waste disposal plant

(See section 13)

Ethylene glycol

Hazard determining components of labelling

#### 2.3 Other hazards

Results of PBT and vPBT assessment:

PBT

Not applicable

vPvB

Not applicable

#### 2.4 Unknown acute toxicity (GHS-US)

Not applicable

### Section 3: Composition/information on ingredients

#### 3.1 Substances

Not applicable

#### 3.1 Mixture

Name	Product identifier	%	GHS-US classification
Ethylene glycol	(CAS No) 107-21-1	39 - <43	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Diethylene glycol monobutyl ether	(CAS No) 112-34-5	6 - <9	Flam. Liq. 4, H227 Eye Irrit. 2A, H319
tert-butyl alcohol ol	(CAS No) 75-65-0	3-<5	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319 STOT SE 3, H335
Ethanol o	(CAS): 64-17-5	1-<2	Flam. Liq. 2, H225

DX1090 Contains per- or poly-fluoroalkyl substances, PFAS

Full text of H-phrases: see section 16

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ENG/ ENGLISH

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## Section 4: First aid measures

### 4.1 Description of first aid measures

First-aid measures general	Never give anything by mouth to an unconscious person. If exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	Allow victim to breathe fresh air. Allow the victim to rest. In all cases of doubt, or when symptoms persist, seek medical advice.
First-aid measures after skin contact	Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.
First-aid measures after ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Immediately call a POISON CENTER or doctor/physician. Obtain emergency medical attention.

### 4.2 Most important symptom and effects, both acute and delayed

Symptoms/injuries after eye contact	In fine dispersion/spraying/misting: May irritate eyes
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### 4.3 Indication of any immediate medical attention and special treatment needed

No additional information

## Section 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media	Foam. Dry powder. Carbon dioxide. Water spray. Sand. Fight larger fires with spray or alcohol resistant foam.
Unsuitable extinguishing media	Do not use a heavy water stream.

### 5.2 Special hazards arising from the substance or mixture.

Explosion hazard	In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container. Flammable vapors may travel long distances, ignite and flash back to source.
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### 5.3 Advice for firefighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.
Protective equipment for firefighters	
Other information	Thermal combustion may release carbon monoxide, carbon dioxide, nitrogen oxides (NOx) and hydrofluoric acid- possibly carbonyl fluoride. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Flammable vapors may travel long distances, ignite and flash back to source.

## Section 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

General measures	Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Spills of this product present a serious slipping hazard. Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Take precautionary measures against static discharge.
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#### 6.1.1 For non-emergency personnel

Emergency procedures	Evacuate unnecessary personnel
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#### 6.1.1 For emergency responders

Protective equipment	Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

### 6.2 Environmental precautions

Prevent entry to soil, sewers, public waters and the environment. Notify authorities if liquid enters soil, sewers public waters or the environment.

### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	Ensure adequate ventilation. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect all waste in suitable and labelled containers and dispose according to local, state and national legislation. Store away from other materials. Use only non-sparking tools. Take precautionary measures against static discharge. Dispose in a safe manner in accordance with local, state and national regulations. Do not allow to enter into surface water or drains. Ensure all local, state and national regulations are observed.
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### 6.4 Most important symptoms and effects, both acute and delayed

See Heading 8. Exposure controls and personal protection

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

## Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide good ventilation in process area to prevent formation of vapor. Do not handle or store near heat, sparks, or any other potential ignition sources. Take precautionary measures against static discharge. Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools. Avoid all eye and skin contact and do not breathe vapor and mist. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practices.

## Hygiene measures

## 7.2. Conditions for safe storage, including any incompatibilities

## Technical measures

A washing facility/water for eye and skin cleaning purposes should be present. Ensure adequate ventilation.

## Storage conditions

Keep out of reach of children. Keep only in the original container in a cool, well-ventilated place. Keep container tightly closed and dry. Keep container closed when not in use. Keep away from heat and direct sunlight. Keep away from food and drink.

## Incompatible materials

Oxidizing agents. Reducing agents.

## 7.3. Specific end use(s)

No additional information available

## Section 8: Exposure controls/ personal protection

## 8.1 Control parameters

## Diethylene glycol monobutyl ether (112-34-5)

ACGIH	ACGIH TWA (ppm)	10 ppm (inhalable fraction and vapor)
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## Ethylene glycol (107-21-1)

ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (aerosol only)
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## tert-Butyl alcohol (75-65-0)

ACGIH	ACGIH TWA (ppm)	100 ppm
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	300 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

## 8.2 Exposure controls

## Appropriate engineering controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

## Personal protective equipment

Avoid all unnecessary exposure. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Protective goggles. Gloves. Protective clothing. For certain operations, additional Personal Protection Equipment (PPE) may be required.



## Hand protection

: Wear protective gloves. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

## Eye protection

: Chemical goggles or safety glasses, with side-shields.

## Skin and body protection

: Long sleeved protective clothing. Antistatic non-skid safety shoes or boots.

## Respiratory protection

: In case of insufficient ventilation, wear suitable respiratory equipment. In case of intensive or longer exposure use self-contained apparatus.

## Other information

: Do not eat, drink or smoke during use.

## Section 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Color	Yellow
Odor	Mild
Odor threshold	No data available
pH	6.-9 at 20°C
Relative evaporation rate (butyl acetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available

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Flash point	Non-Flammable
Auto-ignition temperature	Product is not self-igniting
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapor pressure	No data available
Relative vapor density at 20 °C	No data available
Relative density	No data available
Density	1.17 g/cm³ at 20°C
Solubility	Water: Fully miscible
Log Pow	No data available
Log Kow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	800-1100 cP's
Explosive properties	No data available
Oxidizing properties	No data available
Explosive limits	No data available

### 9.2 Other information

No additional information available

## Section 10: Stability and reactivity

### 10.1 Reactivity

No additional information available

### 10.2 Chemical stability

Not established

### 10.3 Possibility of hazardous reactions

Not established

### 10.4 Conditions to avoid

Direct sunlight. heat/sparks/open flames/hot surfaces

### 10.5 Incompatible materials

Oxidizing agents. Reducing agents

### 10.6 Hazardous decomposition products

Fumes: Carbon monoxide, carbon dioxide, nitrogen oxides (NOx), and hydrofluoric acid- possibly carbonyl fluoride.

## Section 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity		Based on the available LD50 values, the classification criteria are not met
<b>DX1090</b>		
LD50 oral rat		> 5,000 mg/kg (EPA Health Effects Testing Guidelines OPPTS Series)
<b>Diethylene glycol monobutyl ether (112-34-5)</b>		
LD50 oral rat		5,660 mg/kg
LD50 dermal rabbit		4,000 mg/kg
ATE US (oral)		3384 mg/kg bodyweight
ATE US (dermal)		2700 mg/kg bodyweight
<b>Ethylene glycol (107-21-1)</b>		
LD50 oral rat		7,712 mg/kg
LD50 dermal mouse		3,500 mg/kg
LC50 inhalative rat		2.5 mg/L
ATE US (oral)		500 mg/kg bodyweight
ATE US (dermal)		10600 mg/kg bodyweight
<b>tert-Butyl alcohol (75-65-0)</b>		
National Toxicology Program (NTP) Status		1 - Evidence of Carcinogenicity
LD50 oral rat		3,046 mg/kg
LD50 dermal rabbit		> 2,000 mg/kg
LC50 inhalation rat (ppm)		> 10,000 ppm / 4h
ATE US (oral)		2200 mg/kg bodyweight
ATE US (gases)		4500 ppm/4h
ATE US (vapors)		11 mg/l/4h
ATE US (dust, mist)		1.5 mg/l/4h
Skin corrosion / irritation		Not classified (Based on available data, the classification criteria are not met) pH: 6.5 at 20°C
Serious eye damage/ irritation		Not classified (Based on available data, the classification criteria are not met) pH: 6.5 at 20°C

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Respiratory or skin sensitization  
Germ cell mutagenicity  
Carcinogenicity  
Reproductive toxicity  
STOT-Single exposure  
STOT- repeated exposure  
Aspiration hazard

Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met  
Based on available data, the classification criteria are not met  
May cause damage to organs on prolonged or repeated exposure.  
Based on available data, the classification criteria are not met

### Section 12: Ecological information

#### 12.1 Toxicity

**Aquatic Toxicity:** Based on available EC50 and LC50 values, no adverse effects are expected for the aquatic environment

##### DX1090

EC50 Daphnia 1	93.3 mg/L (Exposure time: 48 h – Species: Daphnia magna)
LC50 Daphnia 1	163.3 mg/L (Exposure time: 48 h – Species: Daphnia magna)

##### Diethylene glycol monobutyl ether (112-34-5)

LC50 fish 1	1300 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)

##### tert-Butyl alcohol (75-65-0)

LC50 fish 1	6130 - 6700 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	933 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Daphnia 2	4607 - 6577 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

##### Ethylene glycol (107-21-1)

LC50 fish 1	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

#### 12.2 Persistence and degradability

##### DX1090

Persistence and degradability	Fluorinated components of DX1090 are persistent and non-degradable
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#### 12.3 Bioaccumulative potential

##### DX1090

Bioaccumulative potential	Not established.
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##### Diethylene glycol monobutyl ether (112-34-5)

BCF fish 1	no bioconcentration expected
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##### Ethylene glycol (107-21-1)

Log Pow	-1.93
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##### tert-Butyl alcohol (75-65-0)

BCF fish 1	1.09
Log Pow	0.35

#### 12.4 Mobility in soil

This product family shows mobility in soil

#### 12.5 Other adverse effects

Effect on ozone layer	No additional information available
Effect on the global warming	No additional information available
Other information	Avoid release to the environment.

### Section 13: Disposal considerations

DX1090 contains PFAS (per- or poly-fluoroalkyl substances). Local requirements for waste disposal may be more restrictive or otherwise different from national regulations. Therefore, applicable local, state and national regulatory agencies should be contacted regarding disposal of DX1090.

DX1090 contains a component that has restricted use under the United States Environmental Protection Agency's (EPA) Toxic Substance Control Act (TSCA) and is subject to a Significant New Use Rule (SNUR).

Disposal of this product and all wastes containing this product must be performed using high temperature incineration at a minimum of 1000°C with a minimum residence time of 2 seconds. See 40 CFR 721.10697 SNUR.

#### 13.1 Waste treatment methods

Waste disposal recommendations

Do not allow to enter into surface water or drains. Disposal of this product and all wastes containing this product must be performed using high temperature incineration at a minimum of 1000°C with a minimum residence time of 2 seconds. See 40 CFR 721.10697 SNUR.

Additional information

Prevent contamination of soil, drains and surface waters. Do not re-use empty containers. Do not allow product to reach sewage system.

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Ecology - waste materials

Avoid release to the environment.

### Section 14: Transport information

In accordance with DOT

Not regulated for transport

#### Additional information

Other information

No supplementary information available

#### ADR

No additional information available

#### Transport by sea

No additional information available

#### Air transport

No additional information available

### Section 15: Regulatory information

#### 15.1 US Federal regulations

DX1090 contains a component that has restricted use under the United States Environmental Protection Agency's (EPA) Toxic Substance Control Act (TSCA) and is subject to a Significant New Use Rule (SNUR). The use of this product is limited to only firefighting foam applications (see section 1.2).

Disposal of this product and all wastes containing this product must be performed using high temperature incineration at a minimum of 1000°C with a minimum residence time of 2 seconds. See 40 CFR 721.10697 SNUR.

AFFF containing DX1090 shall not be used in any manner that causes the uncontrolled release of AFFF, except for purposes of:

- An emergency response in the event of a significant transportation, military or industrial fire involving flammable fuels or fluids; OR
- Testing of AFFF equipment that is intended to be used to extinguish flammable fuel or fluid-related fires provided that complete containment, capture, and proper disposal mechanisms are in place to ensure no AFFF is released into the environment as a result of testing.

The use of AFFF containing DX1090 may not be used for training exercises.

When using AFFF containing DX1090 for emergency response, risk mitigation plans must be in place to reduce environmental release and further migration after the fire is extinguished.

Manufacture of DX1090 such that it contains no C8 impurity levels above those allowed.

Disposal of DX1090 waste only by incineration (at a minimum of 1000°C with a minimum residence time of 2 seconds).

No release to surface waters from manufacturing or processing. Releases during use for emergency response must be minimized according to the risk mitigation plan (as specified above).

Notify downstream users of the provisions stated herein.

#### Diethylene glycol monobutyl ether (112-34-5)

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

EPA TSCA Regulatory Flag

T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.  
Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule

#### Ethylene glycol (107-21-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313

EPA TSCA Regulatory Flag

Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

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

5000 lbs.

SARA Section 313 - Emission Reporting

1.0 %

#### tert-Butyl alcohol (75-65-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313  
5000 lbs.

SARA Section 313 - Emission Reporting

1.0 %

#### 15.2 International regulations

##### CANADA

#### Diethylene glycol monobutyl ether (112-34-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 3 - Combustible Liquid  
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

#### Ethylene glycol (107-21-1)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects  
Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

**tert-Butyl alcohol (75-65-0)**

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Class D Division 2 Subdivision B - Toxic material causing other toxic effects

**EU- Regulations****Diethylene glycol monobutyl ether (112-34-5)**

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**Ethylene glycol (107-21-1)**

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**tert-Butyl alcohol (75-65-0)**

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

No additional data available

**Classification according to Directive 67/548/EEC or 1999/45/EC**

No additional data available

**15.2.2 National regulations****Diethylene glycol monobutyl ether (112-34-5)**

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed

Listed on the Japanese ENCS (Existing &amp; New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

**Ethylene glycol (107-21-1)**

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed

Listed on the Japanese ENCS (Existing &amp; New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

**tert-Butyl alcohol (75-65-0)**

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed

Listed on the Japanese ENCS (Existing &amp; New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

**15.3 US State regulations**

- Perfluorooctanoic acid (PFOA), a type of PFAS is on California Proposition 65, listed as causing cancer and reproductive toxicity.
- For more information go to [www.p65warnings.ca.gov/](http://www.p65warnings.ca.gov/)

**Section 16: Regulatory information**

Other information : None

## Full Text of H phrases

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 4	Flammable liquids Category 4
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure



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### Abbreviations and acronyms

ACGIH	American Conference of Government Industrial Hygienists
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
PVC	Polyvinyl chloride

SDS US (GHS HazCom 2021)

*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.*