

# SAFETY DATA SHEET



n-Propanol  
10570

Version / Revision  
Supersedes Version

3.01  
3.00\*\*\*

Revision Date  
Issuing date

28-Feb-2022  
28-Feb-2022

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

### 1.1. Product identifier

Identification of the  
substance/preparation

**n-Propanol**

CAS-No 71-23-8  
EC No. 200-746-9  
Registration number (REACH) 01-2119486761-29

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

Identified uses

Intermediate  
Formulation  
Distribution of substance  
coatings  
cleaning agent  
Lubricants and lubricant additives  
Metal working fluids / rolling oils  
laboratory chemicals

Uses advised against

None

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

Company/Undertaking  
Identification

**OQ Chemicals Corporation**  
15375 Memorial Drive  
West Memorial Place I  
Suite 300  
Houston, TX 77079  
USA

Product Information

Product Stewardship  
FAX: +49 (0)208 693 2053  
email: sc.psq@oq.com

### 1.4. Emergency telephone number

Emergency telephone number +65 3158 1198 (available 24/7)  
000800 100 7479 (for domestic shipments only)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Flammable liquid Category 2, H225  
Serious eye damage/eye irritation Category 1, H318  
Target Organ Systemic Toxicant - Single exposure Category 3, H336

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## Additional information

For full text of Hazard- and EU Hazard-statements see SECTION 16.

## 2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

### Hazard pictograms



### Signal word

**Danger**

### Hazard statements

H225: Highly flammable liquid and vapour.  
H318: Causes serious eye damage.  
H336: May cause drowsiness or dizziness.

### Precautionary statements

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233: Keep container tightly closed.  
P261: Avoid breathing gas/mist/vapours.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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/doctor.  
P403 + P235: Store in a well ventilated place. Keep cool.

## 2.3. Other hazards

Vapours may form explosive mixture with air

Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback

Components of the product may be absorbed into the body by inhalation and ingestion

### PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

Component	CAS-No	REACH-No	1272/2008/EC	Concentration (%)
Propan-1-ol	71-23-8	01-2119486761-29	Flam. Liq. 2; H225 Eye Dam. 1; H318 STOT SE 3; H336	> 99,8

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For full text of Hazard- and EU Hazard-statements see SECTION 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

#### Eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

#### Skin

Wash off immediately with plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

#### Ingestion

Call a physician immediately. Do not induce vomiting without medical advice.

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

#### Main symptoms

gastrointestinal discomfort, dizziness, drowsiness, nausea, weakness, abdominal pain, vomiting.

#### Special hazard

central nervous system effects, Lung irritation, Prolonged skin contact may defat the skin and produce dermatitis.

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

#### General advice

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically. If ingested, irrigate the stomach using activated charcoal.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water spray

#### Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

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

Under conditions giving incomplete combustion, hazardous gases produced may consist of:

carbon monoxide (CO)

carbon dioxide (CO<sub>2</sub>)

Combustion gases of organic materials must in principle be graded as inhalation poisons

Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback

Vapours may form explosive mixture with air

### 5.3. Advice for firefighters

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## Special protective equipment for firefighters

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

## Precautions for firefighting

Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

## SECTION 6: Accidental release measures

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

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

For emergency responders: Personal protection see section 8.

### 6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

### 6.3. Methods and material for containment and cleaning up

#### Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

#### Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

### 6.4. Reference to other sections

For personal protective equipment see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms. Do not use compressed air for filling, discharging or handling.

#### Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

#### Advice on the protection of the environment

See Section 8: Environmental exposure controls.

#### Incompatible products

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strong oxidizing agents  
strong acids

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

### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback. Vapours may form explosive mixture with air.

### Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Store at temperatures not exceeding 38 °C/ 100 °F.

### Unsuitable material

Attacks some forms of plastic and rubber

### Temperature class

T2

## 7.3. Specific end use(s)

Intermediate  
Formulation  
Distribution of substance  
coatings  
cleaning agent  
Lubricants and lubricant additives  
Metal working fluids / rolling oils  
laboratory chemicals

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

#### Exposure limits India

No exposure limits established.

### 8.2. Exposure controls

#### Appropriate Engineering controls

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

#### Personal protective equipment

#### **General industrial hygiene practice**

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Hygiene measures**

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When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

## Respiratory protection

Respirator with A filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

## Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

<b>Suitable material</b>	nitrile rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,55 mm
<b>Break through time</b>	> 480 min

<b>Suitable material</b>	butyl-rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,3 mm
<b>Break through time</b>	> 480 min

## Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Equipment should conform to EN 166

## Skin and body protection

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

## Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	liquid
<b>Colour</b>	colourless
<b>Odour</b>	alcoholic
<b>Odour threshold</b>	< 0,07 - 100 mg/m <sup>3</sup>
<b>pH</b>	No data available
<b>Melting point/range</b>	< -90 °C (Pour point)
<b>Boiling point/range</b>	97 °C @ 1013 hPa
<b>Flash point</b>	23 °C @ 1013 hPa***
<b>Method</b>	ISO 2719***
<b>Evaporation rate</b>	1,0 (n-Butyl acetate = 1)
<b>Flammability (solid, gas)</b>	Does not apply, the substance is a liquid
<b>Lower explosion limit</b>	2,1 Vol %
<b>Upper explosion limit</b>	13,5 Vol %

## Vapour pressure

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Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
26	2,6	0,026	20	68	DIN EN 13016-2
133	13,3	0,133	50	122	DIN EN 13016-2

**Vapour density** 2,1 (Air = 1) @ 20 °C (68 °F)

## Relative density

Values	@ °C	@ °F	Method
0,8036	20	68	DIN 51757

## Solubility

miscible, in water, OECD 105

## log Pow

0,2 @ 25 °C (77 °F) OECD 117\*\*\*

## Autoignition temperature

395 °C @ 1004 hPa

### Method

DIN 51794

## Decomposition temperature

No data available

## Viscosity

2,21 mPa\*s @ 20 °C

### Method

ASTM D445, dynamic

## Oxidizing properties

Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties

## Explosive properties

Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

## 9.2. Other information

### Molecular weight

60,10

### Molecular formula

C<sub>3</sub>H<sub>8</sub>O

### log Koc

0,633 calculated\*\*\*

### Dissociation constant

16,1 (calculated)\*\*\*

### Refractive index

1,383 - 1,385 @ 20 °C

### Heat of combustion

2021 kJ/mol @ 25 °C (77 °F)

### Surface tension

70,8 mN/m (1 g/l @ 20°C (68°F)), OECD 115

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

### 10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

### 10.5. Incompatible materials

strong oxidizing agents, strong acids.

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## 10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure      Ingestion, Inhalation, Eye contact, Skin contact

Acute toxicity				
Propan-1-ol (71-23-8)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	1870-8000 mg/kg	rat	Weight of evidence
Inhalative	LC50	> 33,8 mg/l (4 h)	rat, male/female	OECD 403
Dermal	LD50	4032 mg/kg	rabbit male***	OECD 402

#### Propan-1-ol, CAS: 71-23-8

##### Assessment

Based on available data, the classification criteria are not met for:

Acute oral toxicity

Acute dermal toxicity

Acute inhalation toxicity

Irritation and corrosion				
Propan-1-ol (71-23-8)				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	No skin irritation	OECD 404	
Eyes	rabbit	severe irritation	OECD 405	
Respiratory tract***	mouse***	RD50: 12704 ppm***		10 min***

#### Propan-1-ol, CAS: 71-23-8

##### Assessment

The available data lead to the classification given in section 2\*\*\*

Sensitization				
Propan-1-ol (71-23-8)				
Target Organ Effects	Species	Evaluation	Method	
Skin	mouse	not sensitizing	MEST	
Skin	guinea pig	not sensitizing	OECD 406	
Skin***	human***	not sensitizing***	Human repeat insult patch test (HRIPT)***	

#### Propan-1-ol, CAS: 71-23-8

##### Assessment

Based on available data, the classification criteria are not met for:

Skin sensitization

For respiratory sensitization, no data are available

## Subacute, subchronic and prolonged toxicity

### Propan-1-ol (71-23-8)



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Type	Dose	Species	Method	
Subacute toxicity	NOAEC: 1000 ppm	rat, male/female	Inhalation	
Subchronic toxicity***	NOAEC: 8000 mg/m <sup>3</sup> ***	rat, male/female***	OECD 413 Inhalation***	

## Propan-1-ol, CAS: 71-23-8

### Assessment

Based on available data, the classification criteria are not met for:  
STOT RE

### Carcinogenicity, Mutagenicity, Reproductive toxicity

#### Propan-1-ol (71-23-8)

Type	Dose	Species	Evaluation	Method	
Mutagenicity		CHO (Chinese Hamster Ovary) cells	negative	OECD 476 (Mammalian Gene Mutation)	In vitro study
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	In vitro study
Mutagenicity		V79 cells, Chinese hamster	negative	OECD 473 (Chromosomal Aberration)	In vitro study
Developmental Toxicity	NOAEC: 17460 mg/m <sup>3</sup>	rat		OECD 414, Inhalative	Maternal toxicity***
Developmental Toxicity	NOAEC: 8730 mg/m <sup>3</sup> ***	rat		OECD 414, Inhalative	Developmental toxicity***
Developmental Toxicity***	LOAEC: 17460 mg/m <sup>3</sup> ***	rat***		OECD 414, Inhalative***	Developmental toxicity***
Reproductive toxicity***	NOEC 8730 mg/m <sup>3</sup> ***	rat male/female***		OECD 413 Inhalation***	Fertility***
Reproductive toxicity***	LOAEC: 17460 mg/m <sup>3</sup> ***	rat, male/female***		OECD 413 Inhalation***	Fertility***

## Propan-1-ol, CAS: 71-23-8

### CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

### Evaluation

In vitro tests did not show mutagenic effects

## Propan-1-ol, CAS: 71-23-8

### Main symptoms

central nervous system depression, gastrointestinal discomfort, dizziness, drowsiness, nausea, weakness, abdominal pain, vomiting.

### Target Organ Systemic Toxicant - Single exposure

The available data lead to the classification given in section 2

### Target Organ Systemic Toxicant - Repeated exposure

Based on available data, the classification criteria are not met for:  
STOT RE

### Aspiration toxicity

Based on the viscosity a potential aspiration hazard cannot be excluded

### Other adverse effects

Components of the product may be absorbed into the body by inhalation and ingestion.

### Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be

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found in the registration dossier under the following link:  
<http://echa.europa.eu/information-on-chemicals/registered-substances>.

## SECTION 12: Ecological information

### 12.1. Toxicity

Acute aquatic toxicity			
Propan-1-ol (71-23-8)			
Species	Exposure time	Dose	Method
Daphnia magna (Water flea)	48h	EC50: 3644 mg/l	DIN 38412, part 11
Gammarus pulex	48h	LC50: 1000 mg/l	
Pseudokirchneriella subcapitata	48h	EC50: 9170 mg/l (Growth rate)	
Chlorella pyrenoidosa	48h	NOEC: 1150 mg/l	Growth rate
Pimephales promelas (fathead minnow)	96h	LC50: 4555 mg/l	OECD 203
Activated sludge (domestic)	3 h	IC50: > 1000 mg/l	OECD 209

Long term toxicity				
Propan-1-ol (71-23-8)				
Type	Species	Dose	Method	
Reproductive toxicity***	Daphnia magna (Water flea)***	NOEC: > 100 mg/l (21d)***	OECD 211***	read across***
Reproductive toxicity***	Daphnia magna (Water flea)***	NOEC: 68,3 mg/l (21d)***	QSAR***	
Aquatic toxicity***	Chlorella pyrenoidosa***	NOEC: 1150 mg/l***	Growth rate***	

### 12.2. Persistence and degradability

#### Propan-1-ol, CAS: 71-23-8

##### Biodegradation

75 % (20 d), Readily biodegradable, Sewage, domestic, aerobic, non-adapted, Closed Bottle test.

Abiotic Degradation		
Propan-1-ol (71-23-8)		
Type	Result	Method
Hydrolysis	not expected	
Photolysis	Half-life (DT50): 3 d @ 23°C***	

### 12.3. Bioaccumulative potential

Propan-1-ol (71-23-8)		
Type	Result	Method
log Pow	0,2 @ 25 °C (77 °F)***	measured, OECD 117
BCF	0,88	calculated

### 12.4. Mobility in soil

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<b>Propan-1-ol (71-23-8)</b>		
Type	Result	Method
Surface tension	70,8 mN/m (1 g/l @ 20°C (68°F))	OECD 115
Adsorption/Desorption	log Koc: 0,633	calculated
Distribution to environmental compartments	Air: 3,87% Soil: 0% Water: 96,13% Sediment: 0***	

## 12.5. Results of PBT and vPvB assessment

### Propan-1-ol, CAS: 71-23-8

#### **PBT and vPvB assessment**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

## 12.6. Other adverse effects

### Propan-1-ol, CAS: 71-23-8

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### **Product Information**

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Hazardous waste according to European Waste Catalogue (EWC)

#### **Uncleaned empty packaging**

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

## SECTION 14: Transport information

### ICAO-TI / IATA-DGR

14.1. UN number	UN 1274
14.2. UN proper shipping name	n-Propanol
14.3. Transport hazard class(es)	3
14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	no data available

### IMDG

14.1. UN number	UN 1274
14.2. UN proper shipping name	n-Propanol

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14.3. Transport hazard class(es)	3
14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	
EmS	F-E, S-D
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	
Product name	n-Propyl alcohol
Ship type	3
Pollution category	Y

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Regulation 1272/2008, Annex VI

##### Propan-1-ol, CAS: 71-23-8

<b>Classification</b>	Flam. Liq. 2; H225 Eye Dam. 1; H318 STOT SE 3; H336
<b>Hazard pictograms</b>	GHS02 Flame GHS05 Corrosion GHS07 Exclamation mark
<b>Signal word</b>	Danger
<b>Hazard statements</b>	H225, H318, H336

#### International Inventories

##### Propan-1-ol, CAS: 71-23-8

AICS (AU)  
DSL (CA)  
IECSC (CN)  
EC-No. 2007469 (EU)  
ENCS (2)-207 (JP)  
ISHL (2)-207 (JP)  
KECI KE-29362 (KR)  
INSQ (MX)  
PICCS (PH)  
TSCA (US)  
NZIoC (NZ)\*\*\*  
TCSI (TW)

#### National regulatory information India

**Hazardous Chemicals, Schedule 2: Threshold Quantities at an Isolated Storage**  
not listed

**Hazardous Chemicals, Schedule 3: Threshold Quantities in an Industrial Installation**  
not listed

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## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3

H225: Highly flammable liquid and vapour.

H318: Causes serious eye damage.

H336: May cause drowsiness or dizziness.

### Abbreviations

A table of terms and abbreviations can be found under the following link:

[http://echa.europa.eu/documents/10162/13632/information\\_requirements\\_r20\\_en.pdf](http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf)

### Training advice

For effective first-aid, special training / education is needed.

### Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

### Further information for the safety data sheet

Changes against the previous version are marked by \*\*\*. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage ([www.chemicals.oq.com](http://www.chemicals.oq.com)).

### Disclaimer

**For industrial use only.** The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

**End of Safety Data Sheet**