

# SAFETY DATA SHEET



**Zorgol 8**  
**10730**

Version / Revision  
Supersedes Version

3  
2.00

Revision Date  
Issuing date

06-May-2020  
15-May-2020

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

### 1.1. Product identifier

Identification of the  
substance/preparation

# Zorgol 8

Chemical Name  
CAS-No  
EC No.

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues  
68609-68-7  
271-832-1

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

Use of the Substance /  
Preparation

Intermediate.

Uses advised against

None

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

Company/Undertaking  
Identification

**OQ Chemicals GmbH**  
Rheinpromenade 4A  
D-40789 Monheim  
Germany

Product Information

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

### 1.4. Emergency telephone number

Emergency telephone number

+44 (0) 1235 239 670 (UK) available 24/7  
NCEC +1 202 464 2554 available 24/7

Local emergency telephone  
number

+61 2 8014 4558 (Australia)  
18000 74234 (Australia toll-free number)  
+64 9 929 1483 (New Zealand)  
0800 446 881 (New Zealand toll-free number)  
+65 3158 1195 (Sri Lanka)  
007 803 011 0293 (Indonesia toll-free number)  
+60 3 6207 4347 (Malaysia)  
001 800 120 666 751 (Thailand toll-free number)  
+65 3158 1200 (Bangladesh)  
+63 2 8231 2149 (Philippines)  
+84 28 4458 2388 (Vietnam)  
+65 3165 2217 (Singapore)  
available 24/7

## SECTION 2: Hazards identification

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## Europe

### 2.1. Classification of the substance or mixture

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

Skin corrosion/irritation Category 2, H315  
Environmental hazard Aquatic Chronic 3; H412

#### 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

#### Warning

#### Hazard statements

H315: Causes skin irritation.  
H412: Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P264: Wash hands thoroughly after handling.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.  
P332 + P313: If skin irritation occurs: Get medical advice/ attention.  
P501: Dispose of contents/container in accordance with local regulation.

### 2.3. Other hazards

None known

PBT and vPvB assessment Not required

## USA

### 2.1. Classification of the substance or mixture

This substance is classified in accordance with paragraph (d) of §1910.1200 (GHS-US classification).

Skin corrosion/irritation Category 2, H315  
Environmental hazard Aquatic Acute 3; H402; Aquatic Chronic 3; H412

OSHA Specified Hazards Not applicable.

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## 2.2. Label elements

Labeling according to §1910.1200 (GHS-US labeling).

### Hazard symbol(s)



### Signal word

### Warning

### Hazard statements

H315: Causes skin irritation.  
H402: Harmful to aquatic life  
H412: Harmful to aquatic life with long lasting effects.

### Precautionary statements

### Prevention

P264: Wash hands thoroughly after handling.  
P280: Wear protective gloves.  
P273: Avoid release to the environment.

### Response

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P363: Wash contaminated clothing before reuse.  
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P310: Immediately call a POISON CENTER/doctor.

### Storage

P405: Store locked up.

### Disposal

P501: Dispose of contents/container in accordance with local regulation.

## 2.3. Other hazards

None known

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

Component	CAS-No	REACH-No	1272/2008/EC	Concentration (%)
1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues	68609-68-7	01-2119485030-49	Skin Irrit. 2; H315 Aquatic Chronic 3; H412	100



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## 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. Obtain medical attention.

#### Skin

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

#### Ingestion

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

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

#### Main symptoms

shortness of breath.

#### Special hazard

Lung oedema, Lung irritation.

### 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. In case of lung irritation, first treatment with cortisone spray.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

alcohol-resistant 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

Vapours are heavier than air and may spread along floors

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

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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. Do not allow run-off from fire fighting to enter drains or water courses. Dike and collect water used to fight fire. Water run-off can cause environmental damage. 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). Water runoff can cause environmental damage.

### **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. DO NOT use combustible materials such as sawdust. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. 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.

#### **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**

acids and bases  
amines

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oxidizing agents

## 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.

### Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Handle under nitrogen, protect from moisture.

### Temperature class

T3

## 7.3. Specific end use(s)

Transported isolated intermediate (1907/2006)

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

#### Exposure limits European Union

No exposure limits established

#### Exposure limits Germany

No exposure limits established.

#### Exposure limits United States of America

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

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

#### Eye protection

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

## 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>	polyvinylchloride
<b>Evaluation</b>	Information derived from practical experience
<b>Glove thickness</b>	approx 0,8 mm

## Skin and body protection

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

## Respiratory protection

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Equipment should conform to NIOSH, EN or other applicable national standards.

## 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>	light brown
<b>Odour</b>	slight
<b>Odour threshold</b>	No data available
<b>pH</b>	7 (0,79 g/l in water @ 20 °C (68 °F))
<b>Melting point/range</b>	< -20 °C
<b>Boiling point/range</b>	201 - 365 °C @ 1013 hPa
<b>Flash point</b>	96 °C @ 1013 hPa
<b>Method</b>	ISO 2719
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	Does not apply, the substance is a liquid
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available

### Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
10	1	0,01	111	232	
60	6	0,06	173	343	

**Vapour density** No data available

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<b>Relative density</b>			
Values	@ °C	@ °F	Method
0,93	20	68	OECD 109
<b>Solubility</b>	0,79 g/l @ 20 °C, in water, OECD 105		
<b>log Pow</b>	1,6 @ 23 °C (73,4 °F), OECD 107		
<b>Autoignition temperature</b>	250 °C @ 1013 hPa		
<b>Method</b>	EU A.15		
<b>Decomposition temperature</b>	No data available		
<b>Viscosity</b>	34,18 mPa*s @ 20 °C		
<b>Method</b>	dynamic, OECD 114		
<b>Oxidizing properties</b>	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties		
<b>Explosive properties</b>	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties		

## 9.2. Other information

**Surface tension** 42,67 mN/m @ 20 °C (68 °F), EU A.5  
No data available.

## 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. Stable up to approximately ~ 270 °C.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

bases, amines, acids, oxidizing agents.

### 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



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<b>1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)</b>				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	> 5000 mg/kg	rat, male/female	OECD 401
Inhalative	LC50	> 5,4 mg/l (4h)	rat, male/female	OECD 403

## **1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7**

### **Assessment**

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

Acute oral toxicity

Acute inhalation toxicity

For acute dermal toxicity, no data are available

### **Irritation and corrosion**

<b>1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)</b>				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	Moderate skin irritation	OECD 404	
Eyes	rabbit	Mild eye irritation	OECD 405	

## **1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7**

### **Assessment**

The available data lead to the classification given in section 2

For respiratory irritation, no data are available

### **Sensitization**

<b>1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)</b>				
Target Organ Effects	Species	Evaluation	Method	
Skin	guinea pig male	not sensitizing	OECD 406	

## **1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7**

### **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**

<b>1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)</b>				
Type	Dose	Species	Method	
Subacute toxicity	NOAEL: 1000 mg/kg/d	rat, male/female	OECD 422	Oral
Subchronic toxicity	NOAEL: ca. 750 mg/kg/d	rat, male/female	OECD 408	Oral

## **1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7**

### **Assessment**

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

STOT RE

### **Carcinogenicity, Mutagenicity, Reproductive toxicity**

<b>1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)</b>					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		V79 cells, Chinese hamster	negative	OECD 473 (Chromosomal	

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				Aberration)	
Mutagenicity		Salmonella typhimurium Escherichia coli	negative	OECD 471 (Ames)	
Mutagenicity		CHO (Chinese Hamster Ovary) cells	negative	OECD 476 (Mammalian Gene Mutation)	
Reproductive toxicity	NOAEL 1000 mg/kg/d	rat, parental		OECD 422, Oral	
Reproductive toxicity	NOAEL 1000 mg/kg/d	rat, 1. Generation, male/female		OECD 422, Oral	
Developmental Toxicity	NOAEL 1000 mg/kg/d	rat		OECD 422, Oral	Maternal toxicity
Developmental Toxicity	NOEL 1000 mg/kg/d	rat		OECD 422, Oral	Developmental toxicity, Teratogenicity
Developmental Toxicity	NOAEL >= 300 mg/kg/d	rat		OECD 414, Oral	Maternal toxicity
Developmental Toxicity	NOAEL >=1000 mg/kg/d	rat		OECD 414, Oral	Fetal toxicity

## 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

### 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

Did not show reprotoxic effects in animal experiments

No cancer study was conducted

## 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

### Main symptoms

shortness of breath.

### Target Organ Systemic Toxicant - Single exposure

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

STOT SE

### Target Organ Systemic Toxicant - Repeated exposure

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

STOT RE

### Aspiration toxicity

no data available

### Note

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

**1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)**

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Species	Exposure time	Dose	Method
Danio rerio (Zebra fish)	96h	LC50: 50 mg/l	OECD 203
Daphnia magna (Water flea)	48h	EC50: > 38 mg/l	OECD 202
Desmodesmus subspicatus	72h	EC50: > 34 mg/l (Growth rate)	OECD 201
Desmodesmus subspicatus	72h	EC50: 35 mg/l (Biomass)	OECD 201
Activated sludge (domestic)	3 h	EC50: 1655 mg/l	OECD 209

## Long term toxicity

### 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

Type	Species	Dose	Method
Mortality	Scenedesmus subspicatus	NOEC: 19 mg/l (3d) Growth rate	OECD 201

## 12.2. Persistence and degradability

### 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

#### Biodegradation

30 - 35 % (29 d), activated sludge (domestic), non-adapted, aerobic, OECD 301 B.

#### Abiotic Degradation

### 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

Type	Result	Method
Hydrolysis	No data available	
Photolysis	not expected	

## 12.3. Bioaccumulative potential

### 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

Type	Result	Method
log Pow	1,6@23 °C (73,4 °F)	measured, OECD 107
BCF	No data available	

## 12.4. Mobility in soil

### 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

Type	Result	Method
Adsorption/Desorption	no data available	
Surface tension	42,67 mN/m @ 20 °C (68 °F)	EU A.5
Distribution to environmental compartments	no data available	

## 12.5. Results of PBT and vPvB assessment

### 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

#### PBT and vPvB assessment

Not required

## 12.6. Other adverse effects

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**1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7**

No data available

## Note

Avoid release to the environment.

## 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

### Section 14.1 - 14.6

ICAO-TI / IATA-DGR

Not restricted

IMDG

Not restricted

**14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code** not applicable

ADR/RID

Not restricted

## SECTION 15: Regulatory information

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

DI 2012/18/EU (Seveso III)

Category not subject

DI 1999/13/EC (VOC Guideline)

Component	Status
1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues CAS: 68609-68-7	regulated

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## International Inventories

### **1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7**

AICS (AU)  
DSL (CA)  
IECSC (CN)  
EC-No. 2718321 (EU)  
KECI 2011-3-5023 (KR)  
PICCS (PH)  
TSCA (US)  
NZIoC (NZ)  
TCSI (TW)

## **SECTION 16: Other information**

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

H315: Causes skin irritation.

H412: Harmful to aquatic life with long lasting effects.

### **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)).

The annex is not required because the substance is registered as an intermediate under REACH

### **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**