

SAFETY DATA SHEET



Zorgol 8
10730

Version / Revision
Supersedes Version

2
1.01***

Revision Date
Issuing date

04-Sep-2020
04-Sep-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 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues
CAS-No 68609-68-7
EC No. 271-832-1
Registration number (REACH) 01-2119485030-49***

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

Identified uses Transported isolated intermediate (1907/2006)
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***

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)

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).***

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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***

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

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.

Skin

Wash off immediately with soap and plenty of water. 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.

Ingestion

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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 (CO₂), 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 (CO₂)

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

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.***



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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
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)



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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 UK

No exposure limits established.

DNEL & PNEC

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

DN(M)EL - long-term exposure - systemic effects - Inhalation	66,1*** mg/m ³
DN(M)EL - acute / short-term exposure - systemic effects - Inhalation	No hazard identified***
DN(M)EL - long-term exposure - local effects - Inhalation	No hazard identified***
DN(M)EL - acute / short-term exposure - local effects - Inhalation	Low hazard (no threshold derived)***
DN(M)EL - long-term exposure - systemic effects - Dermal	18,75*** mg/kg bw/day
DN(M)EL - acute / short-term exposure - systemic effects - Dermal	Low hazard (no threshold derived)***
DN(M)EL - long-term exposure - local effects - Dermal	Low hazard (no threshold derived)***
DN(M)EL - acute / short-term exposure - local effects - Dermal	Low hazard (no threshold derived)***
DN(M)EL - local effects - eyes	No hazard identified***

General population

DN(M)EL - long-term exposure - systemic effects - Inhalation	No hazard identified***
DN(M)EL - acute / short-term exposure - systemic effects - Inhalation	No hazard identified***
DN(M)EL - long-term exposure - local effects - Inhalation	No hazard identified***
DN(M)EL - acute / short-term exposure - local effects - Inhalation	No hazard identified***
DN(M)EL - long-term exposure - systemic effects - Dermal	No hazard identified***
DN(M)EL - acute / short-term exposure - systemic effects - Dermal	No hazard identified***
DN(M)EL - long-term exposure - local effects - Dermal	No hazard identified***
DN(M)EL - acute / short-term exposure - local effects - Dermal	No hazard identified***
DN(M)EL - long-term exposure - systemic effects - Oral	No hazard identified***
DN(M)EL - acute / short-term exposure - systemic effects - Oral	No hazard identified***
DN(M)EL - local effects - eyes	No hazard identified***

Environment

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PNEC aqua - freshwater	0,034 mg/l
PNEC aqua - marine water	0,0034 mg/l
PNEC aqua - intermittent releases	0,34 mg/l
PNEC STP	16,55 mg/l
PNEC sediment - freshwater	0,364*** mg/kg
PNEC sediment - marine water	0,0364*** mg/kg
PNEC soil	0,0514*** mg/kg
Secondary poisoning	PNEC oral: 33,3*** mg/kg***
PNEC oral	33,3 mg/kg

8.2. Exposure controls

Special adaptations (REACH)

The substance has been registered as an transported isolated intermediate and must be handled throughout its life cycle under strictly controlled conditions in accordance with Article 18.4, REACH.***

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

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

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.

Suitable material	nitrile rubber
Evaluation	according to EN 374: level 6
Glove thickness	approx 0,55 mm
Break through time	> 480 min
Suitable material	polyvinylchloride
Evaluation	Information derived from practical experience
Glove thickness	approx 0,8 mm

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

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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.

Additional advice

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 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	light brown
Odour	slight
Odour threshold	No data available
pH	7 (0,79 g/l in water @ 20 °C (68 °F))
Melting point/range	< -20 °C
Method	OECD 102***
Boiling point/range	201 - 365 °C @ 1013 hPa
Method	OECD 103***
Flash point	96 °C @ 1013 hPa***
Method	ISO 2719
Evaporation rate	No data available
Flammability (solid, gas)	Does not apply, the substance is a liquid
Lower explosion limit	No data available
Upper explosion limit	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

Relative density	***		
Values	@ °C	@ °F	Method
0,93	20	68	OECD 109

Solubility 0,79 g/l @ 20 °C, in water, OECD 105***

log Pow 1,6 @ 23 °C (73,4 °F), OECD 107***

Autoignition temperature 250 °C @ 1013 hPa***

Method EU A.15

Decomposition temperature No data available

Viscosity 34,18 mPa*s @ 20 °C
Method dynamic, OECD 114***

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

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

9.2. Other information

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

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

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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

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

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

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

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

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

Type	Dose	Species	Evaluation	Method	
Mutagenicity		V79 cells, Chinese hamster	negative	OECD 473 (Chromosomal 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

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Developmental Toxicity***	NOAEL \geq 300 mg/kg/d***	rat***		OECD 414, Oral***	Maternal toxicity***
Developmental Toxicity***	NOAEL \geq 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)			
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

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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

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

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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 ***

ADR/RID

Not restricted

ADN

ADN Container
Not restricted

ADN

ADN Tanker

14.1. UN number

*** ID 9006

14.2. UN proper shipping name

*** Environmentally hazardous substance, liquid, n.o.s.

14.3. Transport hazard class(es)

*** 9

Subsidiary Risk

N2, F***

14.4. Packing group

_***

14.5. Environmental hazards

*** Fish and tree***

14.6. Special precautions for user

no data available***

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***

SECTION 15: Regulatory information

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

Regulation 1272/2008, Annex VI

not listed

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)***

National regulatory information Great Britain

Releases to air (Pollution Inventory Substances)

not subject

Releases to water (Pollution Inventory Substances)

not subject

Releases to sewer (Pollution Inventory Substances)

not subject

For details and further information please refer to the original regulation

15.2. Chemical safety assessment

The Chemical Safety Report (CSR) is not required.

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

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).

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

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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