

## SAFETY DATA SHEET

### SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING

**1.1. Product identifier:**

**HOOK ZONE CLEANER**

**(2x2.5 GAL)**

Part number: 62-860251-005

**1.2. Relevant identified uses of the mixture and uses advised against:**

Hook zone cleaner for bowling tracks, for professional use.

**1.3. Details of the supplier of the safety data sheet:**

Information about the distributor/importer:

**Brunswick Bowling Products, LLC**

525 W. Laketon Ave.

Muskegon, MI 49441

USA

Tel.: 231-725-4966

**1.3.1. Responsible person:**

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E-mail:

[brunswick.hu@brunswickbowling.com](mailto:brunswick.hu@brunswickbowling.com)

**1.4. Emergency telephone number:**

**231-725-4966**

**National Poisons Information Centre (NPI): 01 8092566; 01 8379964**

### SECTION 2: HAZARDS IDENTIFICATION

**2.1. Classification of the mixture:**

Classification according to Regulation 1272/2008/EC (CLP):  
Serious eye damage/eye irritation, Hazard Category 1 – H318

Warning H statements:

**H318** – Causes serious eye damage.

**2.2. Label elements:**

Components that define the hazards: Poly(oxy-1,2-ethanediyl), .alpha.-undecyl-.omega.-hydroxy-



Warning H statements:

**H318** – Causes serious eye damage.

**Precautionary P statements:**

- P210** – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P280** – Wear protective gloves/eye protection/face protection.
- 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.
- P370 + P378** – In case of fire: Use carbon dioxide, dry chemical, foam or water fog to extinguish.
- P403 + P235** – Store in a well-ventilated place. Keep cool.
- P501** – Dispose of contents/container in accordance with local/national regulations.

**2.3. Other hazards:**

Combustible liquid.  
 This product contains no PBT/vPvB substances.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1. Substances:**

Not applicable.

**3.2. Mixtures:**

This product contains the following substances that present a hazard within the meaning of the relevant regulations:

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation 1272/2008/EC (CLP)		
					Hazard pictogram	Hazard category	H phrase
<b>2-Butoxyethanol*</b> Index number: 603-014-00-0	111-76-2	203-905-0	-	5-10	GHS07 Warning	Acute Tox. 4 Acute Tox. 4 Acute Tox. 4 Eye Irrit. 2 Skin Irrit. 2	H332 H312 H302 H319 H315
<b>2-(2-Butoxyethoxy)-ethanol / Diethylene glycol monobutyl ether*</b> Index number: 603-096-00-8	112-34-5	203-961-6	-	5-10	GHS07 Warning	Eye Irrit. 2	H319
<b>Poly(oxy-1,2-ethanediyl), .alpha.-undecyl-.omega.-hydroxy-**</b>	34398-01-1	931-426-3	-	5-10	GHS07 GHS05 Danger	Acute Tox. 4 Eye Dam. 1	H302 H318
<b>Isopropyl alcohol*</b> Index number: 603-117-00-0	67-63-0	200-661-7	-	1-5	GHS02 GHS07 Danger	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225 H319 H336

\*: Substance having occupational exposure limit value.

\*\* : Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No. 1272/2008.

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

For the full text of H phrases: see section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures:

**General information:** In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

#### INGESTION:

Measures:

- If swallowed obtain immediate medical attention.
- Keep at rest.
- Do NOT induce vomiting.
- If the person is conscious, have them drink water.
- Contact a physician immediately.

#### INHALATION:

Measures:

- Remove to fresh air, keep patient warm and at rest.
- If breathing is irregular or stopped, give artificial respiration.
- If unconscious, place in the recovery position and obtain immediate medical attention.
- Give nothing by mouth.

#### SKIN CONTACT:

Measures:

- Remove contaminated clothing.
- Wash skin thoroughly with soap and water or use a recognized skin cleanser.

#### EYE CONTACT:

Measures:

- Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart.
- Immediately call a doctor.

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

#### **Overview:**

Exposure to solvent vapour concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

#### **Eye contact:**

Causes serious eye damage.

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

No special treatment needed; treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media:

#### 5.1.1. Suitable extinguishing media:

Use carbon dioxide, dry chemical, foam or water fog to extinguish.

#### 5.1.2. Unsuitable extinguishing media:

Avoid the use of solid water streams.

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

Hazardous decomposition: Toxic gases/fumes are released during burning or thermal decomposition. During combustion carbon monoxide and carbon dioxide may be formed. May form peroxides of unknown stability.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep cool.

Combustible liquid and vapour. Vapours/dust may cause flash fire or explosion. Vapours can travel to a source of ignition and flash back. Empty containers retain product residue (liquid and/or vapour) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Also, do not reuse container without commercial cleaning or reconditioning.

### 5.3. Advice for firefighters:

Wear full protective clothing and self-contained breathing apparatus in positive pressure demand.

Use water spray to cool containers or protect personnel. Use with caution. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1. Personal precautions, protective equipment and emergency procedures:**
- 6.1.1. **For non-emergency personnel:**  
Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.
- 6.1.2. **For emergency responders:**  
Put on appropriate personal protective equipment (see section 8).  
Eliminate all ignition sources. Prevent additional discharge of material if able to do so safely.  
Do not touch or walk through spilled product.  
Ventilate spill area. Stay upwind of spill.
- 6.2. Environmental precautions:**  
Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.
- 6.3. Methods and material for containment and cleaning up:**  
During the collection, placement, disposal of the waste, wear appropriate individual protective equipment.  
Collect spilled product for disposal. Use only non-combustible material for clean-up. Use clean, non-sparking tools to collect absorbed product. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Flush spill area with water spray after clean up.
- 6.4. Reference to other sections:**  
For further and detailed information see section 8 and 13.

## SECTION 7: HANDLING AND STORAGE

- 7.1. Precautions for safe handling:**  
Observe conventional hygiene precautions.  
Wash hands before eating, drinking, smoking or using toilet.  
Promptly remove soiled clothing and wash thoroughly before reuse.  
Handle containers carefully to prevent damage and spillage.  
Avoid breathing vapour, fumes or mist. Avoid contact with eyes, skin, and clothing.  
Follow all SDS/label precautions even after containers are emptied because they may retain product residues.  
**Technical measures:**  
Use only in a well ventilated area.  
**Precautions against fire and explosion:**  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Potential peroxide former. If peroxide formation is suspected, do not open or move container.  
Take precautionary measures against static discharge.  
Ground and bond containers when transferring material.  
Use spark-proof tools and explosion proof equipment.  
Always open containers slowly to allow any excess pressure to vent.
- 7.2. Conditions for safe storage, including any incompatibilities:**  
**Technical measures and storage condition:**  
Keep away from heat, sparks, and flame.  
Store containers in a cool, well ventilated place.  
Protect from freezing and direct sunlight.  
Keep container closed when not in use.  
**Incompatible materials:** Avoid contact with caustics, aldehydes, chlorinated compounds, ammonia, halogens, strong oxidizing agents, amines, acids and bases.  
**Packaging material:** no special prescriptions.
- 7.3. Specific end use(s):**  
No specific instructions available.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters:

**Occupational exposure limit values** (Code of Practice for the Chemical Agents Regulations, 2018, Ireland):

**2-Butoxyethanol** (CAS: 111-76-2):

8-hour reference period: 20 ppm; 98 mg/m<sup>3</sup>

15-minute reference period: 50 ppm; 246 mg/m<sup>3</sup>

Notes: Sk, IOELV

**2-(2-Butoxyethoxy)-ethanol / Diethylene glycol monobutyl ether** (CAS: 112-34-5):

8-hour reference period: 10 ppm; 67.5 mg/m<sup>3</sup>

15-minute reference period: 15 ppm; 101.2 mg/m<sup>3</sup>

Notes: IOELV

**Isopropyl alcohol** (CAS: 67-63-0):

8-hour reference period: 200 ppm

15-minute reference period: 400 ppm

Notes: Sk

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	no data	no notes
Seawater	no data	no notes
Freshwater sediment	no data	no notes
Seawater sediment	no data	no notes
Wastewater Treatment Plant (STP)	no data	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	no data	no notes

### 8.2. Exposure controls:

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

#### 8.2.1. Appropriate engineering controls:

In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin. Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapour below occupational exposure limits suitable respiratory protection must be worn.

#### 8.2.2. Individual protection measures, such as personal protective equipment:

Use good personal hygiene practices.

Wash hands before eating, drinking, smoking or using toilet.

Promptly remove soiled clothing and wash thoroughly before reuse.

1. **Eye/face protection:** use safety glasses with side shields to protect the eyes (EN 166). An eye wash station is suggested as a good workplace practice.
2. **Skin protection:**
  - a. **Hand protection:** use appropriate, impervious, chemical-resistant protective gloves (EN 374).

- b. **Other:** use chemical resistant clothing such as coveralls/apron and boots.
3. **Respiratory protection:** use an approved respirator, following manufacturer's recommendations when concentrations exceed permissible exposure limits.
4. **Thermal hazards:** no thermal hazards known.

#### 8.2.3. Environmental exposure controls:

No specific prescription.

The requirements detailed in section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Parameter	Value / Test method / Remarks
1. <b>Appearance:</b>	purple liquid
2. <b>Odour:</b>	fragranced product
3. Odour threshold:	no data*
4. pH:	no data*
5. Melting point/freezing point:	no data*
6. Initial boiling point and boiling range:	82.2-245 °C
7. Flash point:	62.8 °C
8. Evaporation rate:	no data*
9. Flammability (solid, gas):	not applicable
10. Upper/lower flammability or explosive limits:	no data*
11. Vapour pressure:	no data*
12. Vapour density:	no data*
13. Relative density:	no data*
14. Solubility(ies):	soluble in water
15. Partition coefficient: n-octanol/water:	no data*
16. Auto-ignition temperature:	no data*
17. Decomposition temperature:	no data*
18. Viscosity:	no data*
19. Explosive properties:	no data*
20. Oxidizing properties:	no data*

### 9.2. Other information:

Density: 0.990 g/cm<sup>3</sup>

\*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity:

No reactivity known.

### 10.2. Chemical stability:

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid:

Avoid impact and friction.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5. Incompatible materials:

Avoid contact with caustics, aldehydes, chlorinated compounds, ammonia, halogens, strong oxidizing agents, amines, acids and bases.

### 10.6. Hazardous decomposition products:

Toxic gases/fumes are released during burning or thermal decomposition. During combustion carbon monoxide and carbon dioxide may be formed. May form peroxides of unknown stability.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. **Information on toxicological effects:**

**Acute toxicity:** Based on available data, the classification criteria are not met.

**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:** Causes serious eye damage.

**Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

### 11.1.1. **Summaries of the information derived from the test conducted:**

No data available.

### 11.1.2. **Relevant toxicological properties:**

#### **Acute toxicity:**

Data for the ingredients:

2-Butoxyethanol and its acetate are readily absorbed through the skin and will cause harmful effects on the blood.

Note: When no route specific LD<sub>50</sub> data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE.

**2-Butoxyethanol** (CAS: 111-76-2):

LD<sub>50</sub> (oral, guinea pig): 1414 mg/kg (category 4)

LD<sub>50</sub> (dermal, guinea pig): 1200 mg/kg

**Diethylene glycol monobutyl ether** (CAS: 112-34-5):

LD<sub>50</sub> (oral, mouse): 5530 mg/kg (category 4)

**Isopropyl alcohol** (CAS: 67-63-0):

LD<sub>50</sub> (oral, rat): 5840 mg/kg

LD<sub>50</sub> (dermal, rabbit): 12800 mg/kg

LC<sub>50</sub> (inhalation, rat): 72.60 mg/l/4h

#### **Carcinogenicity:**

Data for the ingredients:

**2-Butoxyethanol** (CAS: 111-76-2):

OSHA: not listed

NTP: not listed

IARC: Group 3

ACGIH: A3

**Diethylene glycol monobutyl ether** (CAS: 112-34-5):

OSHA: not listed

NTP: not listed

IARC: not listed

ACGIH: not listed

**Poly(oxy-1,2-ethanediyl), .alpha.-undecyl-.omega.-hydroxy-** (CAS: 34398-01-1):

OSHA: not listed

NTP: not listed

IARC: not listed

ACGIH: not listed

**Isopropyl alcohol** (CAS: 67-63-0):

OSHA: not listed

NTP: not listed

IARC: Group 3

ACGIH: A4

**11.1.3. Information on likely routes of exposure:**  
Ingestion, inhalation, skin contact, eye contact.

- 11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:**  
Exposure to solvent vapour concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.  
Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.
- 11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:**  
Causes serious eye damage.
- 11.1.6. Interactive effects:**  
No data available.
- 11.1.7. Absence of specific data:**  
No information.
- 11.1.8. Other information:**  
No data available.

## SECTION 12: ECOLOGICAL INFORMATION

- 12.1. Toxicity:**  
Based on available data, the classification criteria are not met.  
Data for the ingredients:  
**2-Butoxyethanol** (CAS: 111-76-2):  
LC<sub>50</sub> (Oncorhynchus mykiss): 1474 mg/l/96h  
EC<sub>50</sub> (Daphnia magna): 1550 mg/l/48h  
ErC<sub>50</sub> (Pseudokirchneriella subcapitata): 1840 mg/l/72h  
**Diethylene glycol monobutyl ether** (CAS: 112-34-5):  
LC<sub>50</sub> (Lepomis macrochirus): 1300 mg/l/96h  
EC<sub>50</sub> (Daphnia magna): 101 mg/l/48h  
ErC<sub>50</sub> (Desmodesmus subspicatus): 101 mg/l/96h  
**Isopropyl alcohol** (CAS: 67-63-0):  
LC<sub>50</sub> (Pimephales promelas): 10000 mg/l/96h
- 12.2. Persistence and degradability:**  
No data available.
- 12.3. Bioaccumulation potential:**  
No data available.
- 12.4. Mobility in soil:**  
No data available.
- 12.5. Results of PBT and vPvB assessment:**  
This product contains no PBT/vPvB substances.
- 12.6. Other adverse effects:**  
No data available.

## SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1. Waste treatment methods:**  
Disposal according to the local regulations.
- 13.1.1. Information regarding the disposal of the product:**  
Dispose of in accordance with applicable national, regional and local regulations.  
**List of Waste Code:**



No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

- 13.1.2. Information regarding the disposal of the packaging:**  
Dispose of in accordance with applicable regulations.
- 13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:**  
No data available.
- 13.1.4. Sewage disposal:**  
No data available.
- 13.1.5. Special precautions for any recommended waste treatment:**  
No data available.

## SECTION 14: TRANSPORT INFORMATION

**ADR/RID; IMDG; IATA:**  
Not dangerous good in sense of the transport regulations.

- 14.1. UN Number:**  
No UN Number.
- 14.2. UN proper shipping name:**  
No proper shipping name.
- 14.3. Transport hazard class(es):**  
No transport hazard classes.
- 14.4. Packaging group:**  
No packaging group.
- 14.5. Environmental hazards:**  
IMDG:  
Marine pollutant: no.
- 14.6. Special precautions for user:**  
No relevant information available.
- 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 (EC) No 1907/2006** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

**REGULATION (EC) No 1272/2008** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

**COMMISSION REGULATION (EU) No 2015/830** of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

**REGULATION (EC) No 648/2004** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents

The mixture contains a component, which is listed in Annex XVII of the Regulation No 1907/2006/EC of the European Parliament and of the Council, therefore it is subject to restrictions:

entry 55 - 2-(2-Butoxyethoxy)-ethanol / Diethylene glycol monobutyl ether (DEGBE; CAS: 112-34-5)

- 15.2. Chemical safety assessment:** no information.

## SECTION 16: OTHER INFORMATION

**Information regarding the revision of the safety data sheet:** no information.

**Literature references / data sources:**

Safety data sheet issued by the manufacturer (19. 06. 2019/EN).

**Methods used for the classification according to Regulation 1272/2008/EC:**

Classification	Method
Serious eye damage/eye irritation, Hazard Category 1 – H318	Based on calculation method

**Relevant H-Phrases (number and full text) of Section 2 and 3:**

**H225** – Highly flammable liquid and vapour.

**H302** – Harmful if swallowed.

**H312** – Harmful in contact with skin.

**H315** – Causes skin irritation.

**H318** – Causes serious eye damage.

**H319** – Causes serious eye irritation.

**H332** – Harmful if inhaled.

**H336** – May cause drowsiness or dizziness.

**Training advice:** no data available.

**Full text of the abbreviations in the safety data sheet:**

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road.

ATE: Acute Toxicity Estimate.

AOX: Adsorbable organic halides.

BCF: Bioconcentration factor.

BOD: Biological Oxygen Demand.

CAS number: Chemical Abstract Service number.

CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

CMR effects: Carcinogenic, mutagenic, reprotoxic effects.

COD: Chemical Oxygen Demand.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived-No-Effect-Level.

ECHA: European Chemical Agency.

EC: European Community.

EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).

EEC: European Economic Community.

EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EN: European Norm.

EU: European Union.

EWC: European Waste Catalogue (replaced by LoW – see below).

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

IATA: International Air Transport Association.

ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Dangerous Goods.

IMSBC: International Maritime Solid Bulk Cargoes.

IUCLID: International Uniform Chemical Information Database.

IUPAC: International Union of Pure and Applied Chemistry.

Kow: n-Octanol - Water Partition Coefficient.

LC50: Lethal concentration resulting in 50 % mortality.

LD50: Lethal dose resulting in 50 % mortality (median lethal dose).

LoW: List of Waste.

LOEC: Lowest Observed Effect Concentration.

LOEL: Lowest Observed Effect Level.

NOEC: No Observed Effect Concentration.

NOEL: No Observed Effect Level.  
NOAEC: No Observed Adverse Effect Concentration.  
NOAEL: No Observed Adverse Effect Level.  
OECD: Organization for Economic Cooperation and Development.  
OSHA: Occupational Safety and Health Administration.  
PBT: Persistent, Bioaccumulative and Toxic.  
PNEC: Predicted No Effect Concentration.  
QSAR: Quantitative Structure Activity Relationship.  
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.  
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.  
SCBA: Self Contained Breathing Apparatus.  
SDS: Safety Data Sheet.

STOT: Specific Target Organ Toxicity.  
SVHC: Substances of Very High Concern.  
UN: United Nations.  
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.  
VOC: Volatile Organic Compound.  
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.

The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.

The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.

Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.

It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

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Safety data sheet was prepared by:  
**MSDS-Europe**  
International branch of ToxInfo Kft.

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