



# SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Issue Date 07-Feb-2008

Revision Date 14-Feb-2023

Version 2.3

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Code(s)** 2406549  
**Product Name** Nitrogen, Ammonia Standard Solution 100 mg/L as NH<sub>3</sub>-N  
**Molecular weight** No data available

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

**Recommended Use** Standard solution. Water Analysis.  
**Uses advised against** Consumer use

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

#### **Supplier**

HACH UK  
Laser House  
Ground Floor, Suite B  
Waterfront Quay, Salford Quays  
GB - Manchester, M50 3XW  
Tel. +44 (0) 161 872 1487  
info-uk@hach.com

HACH Ireland  
Unit 34 GB Business Park  
Little Island  
IRL-Co. Cork  
T45 H681  
Tel. +353 (0)146 02 522  
info-ie@hach.com

### 1.4. Emergency telephone number

UK: Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service  
IE: National Poisons Information Centre (NPIC) 01 809 2566 (24/7)

## Section 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### 2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

**Hazard statements**

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

**2.3. Other hazards**

No information available.

**PBT & vPvB**

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	CAS No. EC No. Index No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Ammonium chloride	12125-02-9 (017-014-00-8) 235-186-4 017-014-00-8	<0.1%	Acute Tox. 4 - H302 Eye Irrit. 2 - H319	-	-	-

**Full text of H- and EUH-phrases: see section 16**

Acute Toxicity Estimate

No information available

**Section 4: FIRST AID MEASURES****4.1. Description of first aid measures**

<b>General advice</b>	Take off contaminated clothing and shoes immediately. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a doctor.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a doctor.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a doctor.
<b>Ingestion</b>	Rinse mouth.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

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

**Symptoms** No information available.

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

**Note to doctors** Treat symptomatically.

### **Section 5: FIREFIGHTING MEASURES**

#### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Product itself does not burn.

**Unsuitable extinguishing media** No information available.

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

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating and toxic gases and vapours.

#### **5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Additional information** Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### **Section 6: ACCIDENTAL RELEASE MEASURES**

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

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information.

**For emergency responders** Use personal protection recommended in Section 8.

#### **6.2. Environmental precautions**

**Environmental precautions** Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

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

**Methods for containment** Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

#### **6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## Section 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

**Advice on safe handling** Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapours/spray.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wash hands before breaks and after work.

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

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place.

### 7.3. Specific end use(s)

**Specific use(s)** Analytical reagent.

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**Additional information** No information available.

### 8.2. Exposure controls

**Engineering controls** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Personal protective equipment  
Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374-1:2016 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III acco.

**Skin and body protection** Avoid contact with eyes, skin and clothing.

**Respiratory protection** Ensure adequate ventilation.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wash hands before breaks and after work.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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

**Physical state** Liquid

**Colour** colourless

**Odour** Slight ammonia

**Odour threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	6.10	@ 20 °C
<b>Melting point / freezing point</b>	2 °C / 35.6 °F	
<b>Initial boiling point and boiling range</b>	99 °C / 210.2 °F	
<b>Evaporation rate</b>	1 (water = 1)	
<b>Vapour pressure</b>	17.027 mm Hg / 2.27 kPa at 20 °C / 68 °F	
<b>Relative vapor density</b>	0.62	
<b>Specific Gravity</b>	0.9997	
<b>Partition coefficient</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Dynamic viscosity</b>	1 cP (mPa s) at 20 °C / 68 °F	
<b>Kinematic viscosity</b>	1 cSt (mm <sup>2</sup> /s) at 20 °C / 68 °F	
<b>Relative density</b>	0.99 g/mL	@ 20 °C

### Solubility(ies)

#### **Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

#### **Solubility in other solvents**

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F
Methanol	Soluble	> 1000 mg/L	25 °C / 77 °F

**Metal Corrosivity**

Steel Corrosion Rate	0.33 mm/yr / 0.01 in/yr
Aluminum Corrosion Rate	0.51 mm/yr / 0.02 in/yr

**Explosive properties**

Upper explosion limit	No data available
Lower explosion limit	No data available

**Flammable properties**

Flash point	No data available
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**Flammability**

Upper flammability limit:	No data available
Lower flammability limit	No data available

**Oxidising properties**

No data available.

**Bulk density**

No data available

**9.2. Other information**

No information available.

**Section 10: STABILITY AND REACTIVITY****10.1. Reactivity**

Reactivity	No information available.
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**10.2. Chemical stability**

Stability	Stable under normal conditions.
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**10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions	None under normal processing.
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**10.4. Conditions to avoid**

Conditions to avoid	Extremes of temperature and direct sunlight.
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**10.5. Incompatible materials**

Incompatible materials	None known based on information supplied.
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**10.6. Hazardous decomposition products**

Hazardous Decomposition Products	None known based on information supplied.
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**Section 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Acute toxicity**

Based on available data, the classification criteria are not met

Mixture No data available.

Substance Test data reported below.

**Oral Exposure Route:**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride	Rat LD <sub>50</sub>	1650 mg/kg	None reported	None reported	IUCLID

**Acute Toxicity Estimate (ATE)****Unknown acute toxicity**

0 % of the mixture consists of ingredient(s) of unknown toxicity.

**Skin corrosion/irritation**

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

Mixture No data available.

Substance Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ammonium chloride	Existing human experience	Human	None reported	None reported	Mild skin irritant	RTECS

**Serious eye damage/eye irritation**

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

Mixture No data available.

Substance No data available.

**Respiratory or skin sensitisation**

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

Mixture No data available.

Substance Test data reported below.

**Skin Sensitization Exposure Route:**

Chemical name	Test method	Species	Results	Key literature references and sources for data
Ammonium chloride	OECD Test No. 406: Skin Sensitisation	Guinea pig	No sensitisation responses were observed.	OECD 429: Skin Sensitization: Local Lymph Node Assay

**STOT - single exposure**

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

Mixture No data available.

Substance

Test data reported below.

**Oral Exposure Route:**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride	Domestic mammal - Not specified LD <sub>Lo</sub>	1500 mg/kg	None reported	None reported	RTECS

**STOT - repeated exposure**

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

Mixture

No data available.

Substance

Test data reported below.

**Oral Exposure Route:**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride	Rat TD <sub>Lo</sub>	3500 mg/kg	7 days	No toxicological effects observed	RTECS

**Germ cell mutagenicity**

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

Mixture invitro **Data**

No data available.

Substance invitro **Data**

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Ammonium chloride	OECD 471	<i>Salmonella typhimurium</i>	5 mg/plate	72 hours	Negative	RTECS

Mixture invivo **Data**

No data available.

Substance invivo **Data**

No data available.

**Carcinogenicity**

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

Mixture

No data available.

Substance

No data available.

**Reproductive toxicity**

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

Mixture

No data available.

Substance

Test data reported below.

**Oral Exposure Route:**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
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Ammonium chloride	Rat NOAEL	1500 mg/kg	16 days	None reported	ECHA
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**Aspiration hazard**

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

**11.2 Information on other hazards**

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

**11.2.1. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

**11.2.2. Other information**

**Other adverse effects** No information available.

## Section 12: ECOLOGICAL INFORMATION

**12.1. Toxicity****Ecotoxicity**

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

**Unknown aquatic toxicity**

Contains 0 % of components with unknown hazards to the aquatic environment.

**Mixture****Acute aquatic toxicity:**

No data available.

**Aquatic Chronic Toxicity:**

No data available.

**Substance****Acute aquatic toxicity:**

Test data reported below.

Fish:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ammonium chloride	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	42.91 mg/L	ECHA

Crustacea:

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ammonium chloride	48 Hours	<i>Daphnia magna</i>	LC <sub>50</sub>	161 mg/L	IUCLID

**Aquatic Chronic Toxicity:**

No data available.

**12.2. Persistence and degradability****Mixture**

No data available.

**12.3. Bioaccumulative potential****Mixture:**

No data available.

Partition coefficient

Not applicable

**12.4. Mobility in soil**

Soil Organic Carbon-Water Partition Coefficient

Not applicable

**12.5. Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

**12.6. Endocrine disrupting properties**

Endocrine Disruptor Information: This product does not contain any known or suspected endocrine disruptors

**12.7. Other adverse effects**

No information available.

Ozone: Not applicable

Ozone depletion potential (ODP): No information available

**Section 13: DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods****Advice on Disposal**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Waste disposal number of waste from residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

**Waste disposal number of used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste.

**Contaminated packaging** Dispose of contents/containers in accordance with local regulations.

**Other Information** Do not reuse empty containers.

**Section 14: TRANSPORT INFORMATION****IMDG**

14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special precautions for user	See section 6-8 for more information
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	Not applicable

**ADR**

14.1 UN number or ID number	Not regulated
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14.2 Proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	See section 6-8 for more information

<u>IATA</u>	Not regulated
14.1 UN number or ID number	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	See section 6-8 for more information

**Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.

If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

**Section 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants** Not applicable

**Dangerous substance category per Seveso Directive (2012/18/EU)**

- Non-controlled

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

**Germany**

**Water hazard class (WGK)** non-hazardous to water (nwg)

**International Inventories**

EINECS/ELINCS	Complies
TSCA	Complies
DSL/NDL	Complies
ENCS	Complies
IECSC	Complies

<b>KECL - Existing substances</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

## **15.2. Chemical safety assessment**

**Chemical Safety Report** Chemical safety assessments for substances in this mixture were not carried out.

## **Section 16: OTHER INFORMATION**

**Issue Date** 07-Feb-2008  
**Revision Date** 14-Feb-2023  
**Revision Note** New SDS, SDS sections updated, 3, 9, 11, 12.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

#### **Legend**

<b>**</b>	Hazard Designation
<b>ADN</b>	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieure
<b>ADR</b>	European Agreement concerning the International Carriage of Dangerous Goods by Road
<b>ATE</b>	Acute Toxicity Estimate
<b>CAS</b>	Chemical Abstracts Service Number
<b>Ceiling</b>	Maximum limit value
<b>CLP</b>	Classification, Labelling and Packaging of substances and mixtures [Regulation (EC) No. 1272/2008]
<b>DNEL</b>	Derived No Effect Level (DNEL)
<b>EC</b>	European Community
<b>ECHA</b>	ECHA (The European Chemicals Agency)
<b>EC50</b>	Effective Concentration to 50% of a test population
<b>EEC</b>	European Economic Community
<b>EN</b>	European Standard
<b>IMDG</b>	International Maritime Dangerous Goods (IMDG)
<b>IATA</b>	International Air Transport Association (IATA)
<b>IATA-DGR</b>	International Air Transport Association - Dangerous Goods Regulations
<b>ICAO</b>	International Civil Aviation Organization
<b>ICAO-TI</b>	International Civil Aviation Organization - Technical Instructions
<b>IUCLID</b>	IUCLID (The International Uniform Chemical Information Database)
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>LOAEL</b>	Lowest observed adverse effect level
<b>LOAEC</b>	Lowest observed adverse effect concentration
<b>LC50</b>	Lethal Concentration to 50% of a test population
<b>LD50</b>	Lethal Dose to 50% of a test population (Median Lethal Dose)
<b>LOLI</b>	LOLI (List of Lists - An International Chemical Regulatory Database)
<b>MAK</b>	Maximale Arbeitsplatz-Konzentration, a German expression corresponding to threshold limit value, which relates to safe daily exposure levels to chemical substances
<b>NOAEL</b>	NOAEL (No observed adverse effect level)

NOAEC	No observed adverse effect concentration
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labour)
PEC	Predicted Effect Concentration
PNEC	Predicted No Effect Concentration (PNEC)
PBT	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals [Regulation (EC) No. 1907/2006]
RID	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
TWA	TWA (time-weighted average)
SKN*	Skin designation
SKN+	Skin sensitisation
STEL	STEL (Short Term Exposure Limit)
STOT	Specific Target Organ Toxicity
STOT RE	Specific target organ toxicity — repeated exposure
STOT SE	Specific target organ toxicity — single exposure
SVHC	Substances of Very High Concern
TLV	Threshold Limit Value
TRGS	Technical rules for hazardous substances, Germany
TSCA	Toxic Substances Control Act
UN	United Nations
vPvB	very persistent and very bioaccumulative
VOC	Volatile organic compounds
AwSV	Administrative regulation of water polluting substances, Germany

**Key literature references and sources for data**

See Section 11: TOXICOLOGICAL INFORMATION

See Section 12: ECOLOGICAL INFORMATION

**Classification procedure**

<b>Classification according to Regulation (EC) No. 1272/2008 [CLP]</b>	<b>Method Used</b>
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration toxicity	Calculation method
Ozone	Calculation method

**Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed

H319 - Causes serious eye irritation

**Training Advice**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Restrictions on use**

For Laboratory Use Only.

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**End of Safety Data Sheet**