

## **SAFETY DATA SHEET**

This safety data sheet was created pursuant to the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

## **Ammonia No.2**

Revision date 11-29-2021 Revision Number 6

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

#### 1.1. Product identifier

Product Code(s) PPPAM2

Product Name Ammonia No.2

Unique Formula Identifier (UFI) W1KD-UM44-J11F-0CYU

**Pure substance/mixture** Mixture Contains Lithium hydroxide monohydrate

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

Recommended use Reagent for water analysis

Uses advised against Others

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

### **Manufacturer**

Water-I.D. GmbH Daimlerstr. 20

76344 Eggenstein, Germany

Tel.: +49 (0) 721 78 20 29 0, Fax: +49 (0) 721 78 20 29 11

Website: www.water-id.com

EHS / Compliance: lab@water-id.com

# 1.4. Emergency telephone number

Emergency Telephone Poison Control Centre Munich

Tel.: +49 (0) 89 19 24 0

Germany

24 hours service

Languages: German, English

# SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

regulation (EC) NO 1272/2000	
Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Chronic aquatic toxicity	Category 3 - (H412)

## 2.2. Label elements

Contains Lithium hydroxide monohydrate



#### Signal word Danger

#### **Hazard statements**

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H332 - Harmful if inhaled

H412 - Harmful to aquatic life with long lasting effects

#### Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P280 - Wear protective gloves/protective clothing and eye/face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

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 or doctor

#### **Additional information**

This product requires tactile warnings if supplied to the general public. This product requires child resistant fastenings if supplied to the general public.

### 2.3. Other hazards

Harmful to aquatic life.

# SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

#### 3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Lithium hydroxide monohydrate 1310-66-3	10-20	No data available	-	No data available			
Dichloroisocyanuric acid, sodium salt 2893-78-9	0-1	No data available	220-767-7	Acute Tox. 4 (H302) Eye Irrit. 2 (H319) (EUH031) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Ox. Sol. 2 (H272)	STOT SE 3 :: C>=10%		

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

## Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion

-

value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50 - 4	Inhalation LC50 - 4	Inhalation LC50 - 4
			hour - dust/mist - mg/L	hour - vapour - mg/L	hour - gas - ppm
Lithium hydroxide monohydrate 1310-66-3	363		>6.15		
Dichloroisocyanuric acid, sodium salt 2893-78-9	1823	2000	0.27		

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## **SECTION 4: First aid measures**

### 4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

**Inhalation** Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical

attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical

advice/attention.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present

and easy to do. Continue rinsing. Get immediate medical advice/attention.

**Skin contact**Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Get immediate medical advice/attention.

**Ingestion** Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water.

Never give anything by mouth to an unconscious person. Get immediate medical

advice/attention.

**Self-protection of the first aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing dust/fume/gas/mist/vapours/spray. Use personal protective equipment as

required. See section 8 for more information.

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

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

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

Note to doctors Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may

occur with moist rales, frothy sputum, and high pulse pressure.

# **SECTION 5: Firefighting measures**

5.1. Extinguishing media

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Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

CAUTION: Use of water spray when fighting fire may be inefficient. Large Fire

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the

chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

5.3. Advice for firefighters

Special protective equipment for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

gear. Use personal protection equipment.

## SECTION 6: Accidental release measures

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

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate Personal precautions

ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not

breathe dust.

Other information Refer to protective measures listed in Sections 7 and 8.

Use personal protection recommended in Section 8. For emergency responders

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the **Environmental precautions** 

environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

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

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 Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid

generation of dust.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

> not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is

recommended. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapours/spray.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach

of children. Protect from moisture. Store locked up. Store away from other materials.

#### 7.3. Specific end use(s)

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**

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Lithium hydroxide	-	=	-	=	STEL: 1 mg/m <sup>3</sup>
monohydrate					
1310-66-3					
Chemical name	Ireland	Italy	Italy REL	Latvia	Lithuania
Lithium hydroxide	STEL: 1 mg/m <sup>3</sup>	-	-	-	-
monohydrate					
1310-66-3					

### **Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL)
Predicted No Effect Concentration
(PNEC)

No information available. No information available.

8.2. Exposure controls

Personal protective equipment

**Eye/face protection** Tight sealing safety goggles. Face protection shield.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

**Respiratory protection**No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

exceeded of initiation is experienced, ventulation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Avoid breathing dust/fume/gas/mist/vapours/spray.

**Environmental exposure controls** No information available.

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# SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical stateSolidAppearancePowderColourwhiteOdourPungent.

Odour threshold No information available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Melting point / freezing pointNo data availableNone knownBoiling point / boiling rangeNo data availableNone knownFlammability (solid, gas)No data availableNone knownFlammability Limit in AirNone known

Upper flammability or explosive No data available

limits

Lower flammability or explosive No data available

limits

Flash pointNo data availableNone knownAutoignition temperatureNo data availableNone knownDecomposition temperatureNone known

pH 12.9 None known

pH (as aqueous solution) No data available No information available

Kinematic viscosity No data available None known Dynamic viscosity No data available None known Water solubility No data available None known Solubility(ies) No data available None known Partition coefficient No data available None known Vapour pressure No data available None known Relative density No data available None known

Bulk density
No data available
No data available

Relative vapour density

No data available

None known

Particle characteristics

Particle SizeNo information availableParticle Size DistributionNo information available

## 9.2. Other information

9.2.1. Information with regards to physical hazard classes Not applicable

9.2.2. Other safety characteristics

No information available

# **SECTION 10: Stability and reactivity**

10.1. Reactivity

**Reactivity** No information available.

10.2. Chemical stability

**Stability** Stable under normal conditions.

**Explosion data** 

Sensitivity to mechanical impact None. Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

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Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

**Conditions to avoid** Exposure to air or moisture over prolonged periods. Excessive heat.

10.5. Incompatible materials

**Incompatible materials** Acids. Bases. Oxidising agent.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

# SECTION 11: Toxicological information

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Information on likely routes of exposure

#### **Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. Corrosive by inhalation.

(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs.

Pulmonary edema can be fatal. Harmful by inhalation.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye

damage. (based on components). Corrosive to the eyes and may cause severe damage

including blindness. May cause irreversible damage to eyes.

**Skin contact** Specific test data for the substance or mixture is not available. Corrosive. (based on

components). Causes burns.

**Ingestion** Specific test data for the substance or mixture is not available. Causes burns. (based on

components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung

damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Numerical measures of toxicity

#### **Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 363.00 mg/kg ATEmix (inhalation-dust/mist) 1.01 mg/l

#### Unknown acute toxicity

49.83 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

84.17 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

### **Component Information**

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Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium hydroxide monohydrate	= 120 mg/kg (Rat)		= 0.96 mg/L (Rat) 4 h
Dichloroisocyanuric acid, sodium salt	= 1823 mg/kg (Rat)	> 2000 mg/kg(Rabbit)	0.27 - 1.17 mg/L (Rat)4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes burns.

Serious eye damage/eye irritation Classification based on data available for ingredients. Risk of serious damage to eyes.

Causes burns.

**Respiratory or skin sensitisation** No information available.

Germ cell mutagenicity No information available.

**Carcinogenicity** No information available.

Reproductive toxicity No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure**No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** 

11.2.2. Other information

Other adverse effects No information available.

# **SECTION 12: Ecological information**

12.1. Toxicity

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

**Unknown aquatic toxicity**Contains 19.5 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Dichloroisocyanuric acid, sodium salt	-	LC50: 0.13 - 0.36mg/L (96h, Oncorhynchus mykiss) LC50: 0.176 - 0.267mg/L (96h, Oncorhynchus mykiss)	<u>-</u>	EC50: 0.00018 - 0.00021mg/L (48h, Daphnia magna) EC50: 0.093 - 0.16mg/L (48h, Daphnia magna)

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LC50: 0.207 - 0.389mg/L	
(96h, Lepomis	
macrochirus)	
LC50: 0.25 - 1mg/L (96h,	
Lepomis macrochirus)	
LC50: =0.29mg/L (96h,	
Oncorhynchus mykiss)	

### 12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

No information available. **Bioaccumulation** 

12.4. Mobility in soil

No information available. Mobility in soil

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

#### PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Lithium hydroxide monohydrate	The substance is not PBT / vPvB
Dichloroisocyanuric acid, sodium salt	The substance is not PBT / vPvB

## 12.6. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

#### 12.7. Other adverse effects

No information available.

# **SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Do not reuse empty containers. Contaminated packaging

# **SECTION 14: Transport information**

14.1 UN number or ID number UN2680

14.2 UN proper shipping name Lithium hydroxide

14.3 Transport hazard class(es) 8

14.4 Packing group

Description UN2680, Lithium hydroxide, 8, II

14.5 Environmental hazards Not applicable

14.6 Special precautions for user

**Special Provisions** None

**ERG Code** 8L

IMDG

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14.1 UN number or ID number UN2680

**14.2 UN proper shipping name** Lithium hydroxide

14.3 Transport hazard class(es) 8
14.4 Packing group

**Description** UN2680, Lithium hydroxide, 8, II

14.5 Marine pollutant NP

14.6 Special precautions for user

Special Provisions None

**EmS-No** F-A, S-B No information available

14.7 Maritime transport in bulk No information available according to IMO instruments

RID

**14.1 UN number or ID number** UN2680

**14.2 UN proper shipping name** Lithium hydroxide

14.3 Transport hazard class(es)14.4 Packing group

**Description** UN2680, Lithium hydroxide, 8, II

**14.5 Environmental hazards** Not applicable

14.6 Special precautions for user

**Special Provisions** None **Classification code** C6

ADR

14.1 UN number or ID number UN2680

**14.2 UN proper shipping name** Lithium hydroxide

14.3 Transport hazard class(es) 8
14.4 Packing group | |

**Description** UN2680, Lithium hydroxide, 8, II, (E)

14.5 Environmental hazards Not applicable

14.6 Special precautions for user

Special ProvisionsNoneClassification codeC6Tunnel restriction code(E)

# **SECTION 15: Regulatory information**

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

### **European Union**

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.

#### 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

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

Not applicable

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**International Inventories** 

Complies **TSCA DSL/NDSL** Does not comply **EINECS/ELINCS** Does not comply **ENCS** Complies Complies **IECSC** Does not comply KECL **PICCS** Complies **AICS** Complies

#### Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**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** No information available

## **SECTION 16: Other information**

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

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

EUH031 - Contact with acids liberates toxic gas

H272 - May intensify fire; oxidiser

H302 - Harmful if swallowed

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

### Legend

SVHC: Substances of Very High Concern for Authorisation:

## Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
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

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Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications

Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme

Organisation for Economic Co-operation and Development Screening Information Data Set

World Health Organization

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**