according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU

## Ammonium chloride 99+%, pure

article number: AMC203.1.2

Version: 2.0 en

Replaces version of: 2020-05-26

Version: (1)



date of compilation: 2020-05-26

Revision: 2021-04-22

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

#### 1.1 Product identifier

Identification of the substance Ammonium chloride

Article number AMC203.1.2

Registration number (REACH) 01-2119487950-27-xxxx

Index No 017-014-00-8

EC number 235-186-4

CAS number 12125-02-9

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

Identified uses: laboratory chemical

laboratory and analytical use

: Department Health, Safety and Environment

1.3 Details of the supplier of the safety data sheet

Laboratoriumdiscounter Zandvoortstraat 75 1976BN Ijmuiden Nederland

Telephone: +31 (0) 255 700 210 e-mail: <u>info@laboratoriumdiscounter.nl</u> Website: www.laboratoriumdiscounter.nl

Competent person responsible for the safety data

sheet:

e-mail (competent person): info@laboratoriumdiscounter.nl

1.4 Emergency telephone number

Name	Street	Postal code/ city	Telephone	Website
National Poisons Inform- ation Service City Hospital	Dudley Rd	B187QH Birm- ingham	844 892 0111	

Emergency information service +49/(0)89 19240

## SECTION 2: Hazards identification

# 2.1 Classification of the substance ormixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

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Classifica	Classification acc. to GHS						
Section	Hazard class	Hazard class and cat- egory	Hazard state- ment				
3.10	acute toxicity (oral)	(Acute Tox. 4)	H302				
3.3	serious eye damage/eye irritation	(Eye Irrit. 2)	H319				

#### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word Warning

## **Pictograms**

GHS07



#### **Hazard statements**

H302 Harmful if swallowed H319 Causes serious eyeirritation

# **Precautionary statements**

Precautionary statements - prevention

P270 Do not eat, drink or smoke when using this product.

#### Precautionary statements - response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Symbol(s)



# 2.3 Other hazards

There is no additional information.

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

Name of substance Ammonium chloride

Index No 017-014-00-8

Registration number (REACH) 01-2119487950-27-xxxx

EC number 235-186-4 CAS number 12125-02-9

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Molecular formula NH<sub>4</sub>Cl

Molar mass  $53,49 \, {}^{9}/{}_{mol}$ 



# **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures



#### **General notes**

Take off contaminated clothing.

### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

### Following ingestion

Rinse mouth with water (only if the person is conscious). Call a doctor.

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

After eye contact: Irritation,

Following skin contact: Localised redness, oedema, pruritis and/or pain,

Following ingestion: Nausea, Vomiting,

Following inhalation: Cough, pain, choking, and breathing difficulties

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

none

# **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media



# Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings water spray, foam, dry extinguishing powder, carbon dioxide ( $CO_2$ )

### Unsuitable extinguishing media

water jet

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

Non-combustible.

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## **Hazardous combustion products**

In case of fire may be liberated: nitrogen oxides (NOx), hydrogen chloride (HCl)

#### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## **SECTION 6: Accidental release measures**

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



# For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

#### 2. Environmental precautions

Keep away from drains, surface and ground water.

### 3. Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust.

### Other information relating to spills and releases

Place in appropriate containers for disposal.

#### 4. Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

# **SECTION 7: Handling and storage**

#### 1. Precautions for safe handling

No special measures are necessary.

#### · Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

## Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 2. Conditions for safe storage, including anyincompatibilities

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

### Consideration of other advice

#### Ventilation requirements

Use local and general ventilation.

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# Specific designs for storage rooms or vessels Recommended storage temperature: 15 - 25 °C.

#### 7.3 Specific end use(s)

No information available.

# SECTION8: Exposurecontrols/personal protection

# 8.1 Control parameters

#### **National limit values**

# Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Nota- tion	ldentifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [ppm]	Ceil- ing-C [mg/ m³]	Source
GB	dust		i	WEL	10				EH40/2005
GB	dust		r	WEL	4				EH40/2005
GB	ammonium chloride	12125-02- 9	fume	WEL	10	20			EH40/2005

#### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

fume As fume i Inhalable fraction

r Respirable fraction

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-

minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8

hours time-weighted average (unless otherwise specified)

# Relevant DNELs/DMELs/PNECs and other threshold levels

# · human health values

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	128,9 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	43,97 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

#### · environmental values

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	0,25 <sup>mg</sup> / <sub>l</sub>	freshwater	short-term (single instance)
PNEC	0,025 <sup>mg</sup> /I	marine water	short-term (single instance)
PNEC	13,1 <sup>mg</sup> / <sub>l</sub>	sewage treatment plant (STP)	short-term (single instance)
PNEC	0,09 <sup>mg</sup> /kg	marine sediment	short-term (single instance)
PNEC	50,7 <sup>mg</sup> /kg	soil	short-term (single instance)
PNEC	0,43 <sup>mg</sup> / <sub>l</sub>	water	intermittent release
PNEC	0,9 <sup>mg</sup> / <sub>kg</sub>	freshwater sediment	short-term (single instance)

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#### 8.2 Exposure controls

Individual protection measures (personal protective equipment)

#### Eye/face protection





Use safety goggle with side protection.

# Skin protection





#### · hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### · type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

#### · breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### Respiratory protection





Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

#### **Environmental exposure controls**

Keep away from drains, surface and ground water.

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# SECTION 9: Physical and chemical properties

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

**Appearance** 

Physical state solid (powder, crystalline)

Colour white

Odour odourless

Odour threshold no data available

Other physical and chemical parameters

pH (value) 4,7 (water: 200 <sup>g</sup>/<sub>l</sub>, 25 °C)

Melting point/freezing point 338 °C Sublimation point 338°C

Initial boiling point and boiling range this information is not available

Flash point not applicable

Evaporation rate no data available

Flammability(solid, gas) these information are not available

**Explosive limits** 

·lower explosion limit (LEL)
 · upper explosion limit (UEL)
 this information is not available
 this information is not available
 Explosion limits of dust clouds
 these information are not available

Vapour pressure 66 hPa at 250 °C

Density  $1,53 \text{ g/cm}^3 \text{ at } 25 ^{\circ}\text{C}$ 

Vapour density this information is not available

Bulk density  $\sim 600 - 900 \,\mathrm{kg/m^3}$ 

Relative density this information is not available

Solubility(ies)

Water solubility  $372 \, \mathrm{g/j}$  at  $20 \, \mathrm{C}$ 

Partition coefficient

n-octanol/water (log KOW) -4,37 (Lit.)

Auto-ignition temperature Information on this property is not available.

Decomposition temperature 338 °C (ECHA)

Viscosity not relevant (solid matter)

Explosive properties Shall not be classified as explosive.

Oxidising properties none

9.2 Other information

There is no additional information.

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# SECTION 10: Stability and reactivity

### 1. Reactivity

This material is not reactive under normal ambient conditions.

#### 2. Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

# 3. Possibility of hazardous reactions

Violent reaction with: Alkali hydroxide (caustic alkali), Bases, Nitrate, Acids, Strong oxidiser

#### 4. Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: 338 °C.

#### 5. Incompatible materials

aluminium, lead, iron, copper

#### 6. Hazardous decomposition products

Hazardous combustion products: see section 5.

# SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

#### **Acute toxicity**

Exposure route	Endpoint	Value	Species	Source
oral	LD50	1.410 <sup>mg</sup> /kg	rat	ECHA

### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

## Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### · Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

#### If swallowed

nausea, vomiting

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Causes serious eye irritation

If inhaled

cough, pain, choking, and breathing difficulties

• If on skin

pruritis, localised redness

Other information

Other adverse effects: Circulatory collapse, Blood pressure drop, Spasms

# SECTION 12: Ecological information

## 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

## Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	46,27 <sup>mg</sup> / <sub>I</sub>	Prosopium williamsoni	ECHA	96 h
LC50	42,91 <sup>mg</sup> / <sub>l</sub>	rainbow trout (Onco- rhynchus mykiss)	ECHA	96 h
EC50	136,6 <sup>mg</sup> / <sub>I</sub>	daphnia magna	ECHA	48 h
EC50	98,5 <sup>mg</sup> / <sub>I</sub>	Ceriodaphnia dubia	ECHA	48 h

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#### **Aquatic toxicity (chronic)**

Endpoint	Value	Species	Source	Exposure time
EC50	1.310 <sup>mg</sup> /ı	microorganisms	ECHA	30 min
growth (EbCx) 10%	4,28 <sup>mg</sup> / <sub>l</sub>	bluegill (Lepomis mac- rochirus)	ЕСНА	30 d

## 2. Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

## 3. Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)

-4,37

#### 4. Mobility in soil

Data are not available.

# 5. Results of PBT and vPvB assessment

Data are not available.

## 6. Other adverse effects

Data are not available.

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# **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

### Sewage disposal-relevant information

Do not empty into drains.

### 2. Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### 3. Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

# **SECTION 14: Transport information**

1.	UN number	(not subject to transport regulations)
2.	UN proper shipping name	not relevant
3.	Transport hazard class (es)	notrelevant
	Class	-
4.	Packing group	not relevant, not assigned to a packing group
5.	Environmental hazards	none (non-environmentally hazardous acc. to the danger-

ous goods regulations)

## 6. Special precautions for user

There is no additional information.

#### 7. Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

### 8. Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

Not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

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# SECTION 15: Regulatory information

- 1. Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)
  - Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) Not listed.
  - Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS) Not listed.
  - Regulation 850/2004/EC on persistent organic pollutants (POP) Not listed.
  - Restrictions according to REACH, Annex XVII

Name of substance	Type of registration	Conditions of re- striction	No
Ammonium chloride	2016/1017/EC annex XVII	R65	65

#### Legend R65

1. Shall not be placed on the market, or used, in cellulose insulation mixtures or cellulose insulation articles after 14 July 2018 unless the emission of ammonia from those mixtures or articles results in a concentration of less than 3 ppm by volume (2.12 mg/m3) under the test conditions specified in paragraph 4.

A supplier of a cellulose insulation mixture containing inorganic ammonium salts shall inform the recipient or consumer of the maximum permissible loading rate of the cellulose insulation mixture, expressed in thickness and

A downstream user of a cellulose insulation mixture containing inorganic ammonium salts shall ensure that the

maximum permissible loading rate communicated by the supplier is not exceeded.

2. By way of derogation, paragraph 1 shall not apply to placing on the market of cellulose insulation mixtures intended to be used solely for the production of cellulose insulation articles, or to the use of those mixtures in the

production of cellulose insulation articles.

3. In the case of a Member State that, on 14 July 2016, has national provisional measures in place that have been authorised by the Commission pursuant to Article 129(2)(a), the provisions of paragraphs 1 and 2 shall apply from that date

4. Compliance with the emission limit specified in the first subparagraph of paragraph 1 shall be demonstrated in accordance with Technical Specification CEN/TS 16516, adapted as follows:

(a) the duration of the test shall be at least 14 days instead of 28 days;

(b) the ammonia gas emission shall be measured at least once per day throughout the test;

(c) the emission limit shall not be reached or exceeded in any measurement taken during the test; (d) the relative humidity shall be 90 % instead of 50 %;

(e) an appropriate method to measure the ammonia gas emission shall be used;

(f) the loading rate, expressed in thickness and density, shall be recorded during the sampling of the cellulose insulation mixtures or articles to be tested.

Name acc. to inventory	CAS No	Wt%	Listed in	Remarks
Substances which contribute to eutrophication (in particular, nitrates and phosphates)		100	A)	

## Legend

Indicative list of the main pollutants

Restrictions according to REACH, Title VIII

· List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list not listed

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#### Seveso Directive

2012/18/EU (Seveso III)					
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes		
	not assigned				

#### •Directive 75/324/EEC relating to aerosol dispensers

#### Filling batch

**Deco-Paint Directive (2004/42/EC)** 

VOC content	0% 0 <sup>g</sup> / <sub>l</sub>	
Directive on industrial emissions (VOCs, 2010/75/EU)		
VOC content	0 %	
VOC content	0 <sup>g</sup> / <sub>l</sub>	

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

Name acc. to inventory	CAS No	Listed in	Remarks
Substances which contribute to eutrophication (in particular, nitrates and phosphates)		A)	

#### Legend

A)

Indicative list of the main pollutants

Regulation 98/2013/EU on the marketing and use of explosives precursors

not listed

Regulation 111/2005/EC laying down rules for the monitoring of trade between the Community and third countries in drug precursors

not listed

#### **National inventories**

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed

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Country	National inventories	Status
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

#### Legend

Australian Inventory of Chemical Substances Chemical Inventory and Control Regulation List of Existing and New Chemical Substances (CSCL-ENCS) Domestic Substances List(DSL) AICS CICR

CSCL-ENCS DSL ECSI IECSC

EC Substance Inventory (EINECS, ELINCS, NLP)

Inventory of Existing Chemical Substances Produced or Imported in China National Inventory of Chemical Substances
Korea Existing Chemicals Inventory
New Zealand Inventory of Chemicals KECI NZIoC

 $Philippine Inventory of Chemicals \ and \ Chemical \ Substances \ (PICCS)$ 

PICCS Philippine Inventory of Chemicals and REACH Reg. REACH registered substances TCSI Taiwan Chemical Substance Inventory TSCA Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

# SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
1.1	Registration number (REACH): 01-2119488876-14-xxxx	Registration number (REACH): 01-2119487950-27-xxxx	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations	
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)	
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)	
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)	
Ceiling-C	ceiling value	
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures	
CMR	Carcinogenic, Mutagenic or toxic for Reproduction	
DGR	Dangerous Goods Regulations (see IATA/DGR)	
DMEL	Derived Minimal Effect Level	

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Abbr.	Descriptions of used abbreviations
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50%. The EC50 corresponds to the concentration of a tested substance causing 50% changes in response (e.g. on growth) during a specified time interval
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
SVHC	Substance of Very High Concern
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative
WEL	workplace exposure limit

# Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU Regulation (EC) No. 1272/2008 (CLP, EU GHS)
  Dangerous Goods Regulations (DGR) for the air transport (IATA)

- International Maritime Dangerous Goods Code (IMDG)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

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Code	Text
H302	harmful if swallowed
H319	causes serious eye irritation

## **Disclaimer**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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