



Safety Data Sheet

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

Hydrochloric acid 25 - 37%

Version number: 6.0
Replaces version of: 2013-10-23 (5.0)

Revision: 2017-10-13
First version: 10.04.2006

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

1.1 Product identifier

Trade name	<u>Hydrochloric acid 25 - 37%</u>
Registration number (REACH)	not relevant (mixture)
CAS number	not relevant (mixture)

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

Relevant identified uses	Chemicals for various applications Chemicals for synthesis PH-corrective agent Discharging agent Neutralisation agent Laboratory chemical Regeneration of ion exchangers Pickling of metal parts
Uses advised against	Do not use for squirting or spraying Do not use for products which come into direct contact with the skin

1.3 Details of the supplier of the safety data sheet

BERGCHEMIE J.C.Bröcking & Co. GmbH Rudolfstrasse 14 42285 Wuppertal Germany	Telephone: ++49 (0) 202 - 45 60 60 Telefax: ++49 (0) 202 / 44 79 32
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e-mail (competent person) sdb@csb-online.de

Please do not use this e-mail adress to ask for the latest safety data sheet. For this purpose contact BERGCHEMIE J.C.Bröcking & Co. GmbH.

1.4 Emergency telephone number

As above or next toxicological information centre.

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification acc. to GHS				
Section	Hazard class	Category	Hazard class and category	Hazard statement
2.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290
3.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

for full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

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

Signal word danger

Pictograms

GHS05, GHS07



Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P406 Store in corrosive resistant container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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Hazardous ingredients for labelling

hydrochloric acid ...%

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.


SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Hazardous ingredients acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
hydrochloric acid ...%	CAS No 7647-01-0 EC No 231-595-7 Index No 017-002-01-X REACH Reg. No 01-2119484862-27- xxxx	> 25 - < 37	Met. Corr. 1 / H290 Skin Corr. 1B / H314 Eye Dam. 1 / H318 STOT SE 3 / H335	

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Remove affected person from the danger area and lay down.

Do not leave affected person unattended.

Self-protection of the first aider.

In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

In case of respiratory tract irritation, consult a physician.

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Following skin contact

Remove/take off immediately all contaminated clothing and wash it before reuse.

After contact with skin, wash immediately with plenty of water.

Causes poorly healing wounds.

Call a physician immediately.

Following eye contact

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

Following ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting.

Get immediate medical advice/attention.

Notes for the doctor

none

4.2 Most important symptoms and effects, both acute and delayed

Cough, pain, choking, and breathing difficulties.

Pneumonia.

Pulmonary oedema.

4.3 Indication of any immediate medical attention and special treatment needed

Subsequent observance for pneumonia and pulmonary oedema.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Non-combustible,, co-ordinate firefighting measures to the fire surroundings

Unsuitable extinguishing media

none

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Substance or mixture corrosive to metals.

Hazardous combustion products

hydrogen chloride (HCl), chlorine (Cl₂), hydrogen

5.3 Advice for firefighters

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

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Special protective equipment for firefighters

use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

Avoid contact with skin and eyes.

Avoid breathing gas/mist/vapours/spray.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

In case of formation of gases/vapours/mists suppress with water spray. Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advices on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Neutralisation techniques.

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 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

7.1 Precautions for safe handling

Provision of sufficient ventilation.
Avoid contact with skin and eyes.
Avoid breathing gas/mist/vapours/spray.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.
Use only in well-ventilated areas.

Specific notes/details

None.

Handling of incompatible substances or mixtures

Do not mix with alkali.

Keep away from

caustic solutions, keep away from metals, hypochlorites

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.
Wash hands after use.
Preventive skin protection (barrier creams/ointments) is recommended.
Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.
Observe hints for combined storage.

Protect against external exposure, such as

frost

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.

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Ventilation requirements

Provision of sufficient ventilation.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)								
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
EU	hydrogen chloride	7647-01-0	IOELV	5	8	10	15	2000/39/EC
GB	hydrogen chloride	7647-01-0	WEL	1	2	5	8	EH40/2005

Notation

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

Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
hydrochloric acid ...%	7647-01-0	DNEL	8 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects

Relevant PNECs of components of the mixture				
Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment
hydrochloric acid ...%	7647-01-0	PNEC	36 µg/l	freshwater
hydrochloric acid ...%	7647-01-0	PNEC	45 µg/l	water
hydrochloric acid ...%	7647-01-0	PNEC	36 µg/l	marine water
hydrochloric acid ...%	7647-01-0	PNEC	36 µg/l	sewage treatment plant (STP)

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8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Hand protection

Material	Material thickness	Breakthrough times of the glove material
CR: chloroprene (chlorobutadiene) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
NBR: acrylonitrile-butadiene rubber	≥ 0,35 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,5 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,4 mm	>480 minutes (permeation: level 6)
PVC: polyvinyl chloride	≥ 0,5 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

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.

Respiratory protection

Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/White).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Form	fluid
Colour	colorless to pale yellow

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Odour	stinging
Odour threshold	these information are not available
Other safety parameters	
pH (value)	1 (20 °C), acid
Melting point/freezing point	these information are not available
Initial boiling point and boiling range	~108 °C at 1,013 hPa
Flash point	not applicable
Evaporation rate	these information are not available
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	
Lower explosion limit (LEL)	these information are not available
Upper explosion limit (UEL)	these information are not available
Vapour pressure	~21.3 hPa at 20 °C
Density	1.15 g/cm ³ at 20 °C
Vapour density	these information are not available
Relative density	these information are not available
Solubility(ies)	
Water solubility	miscible in any proportion
Partition coefficient	
n-octanol/water (log KOW)	these information are not available
Auto-ignition temperature	these information are not available
Relative self-ignition temperature for solids	not relevant (Fluid)
Decomposition temperature	these information are not available
Viscosity	
Kinematic viscosity	these information are not available
Dynamic viscosity	1.7 mPa s at 20 °C
Explosive properties	not explosive
Oxidising properties	shall not be classified as oxidising

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9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Alkalis.

Miscible with water, with generation of much heat.

Metals (due to the release of hydrogen in an acid/alkaline medium).

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

acids, bases, oxidisers, amine, alkali metal, fluorine, hypochlorites

Release of flammable materials with:

light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Hydrogen chloride (HCl).

Hydrogen.

Chlorine.

Hazardous combustion products: see section 5.

As a result of use:

hydrogen chloride (HCl)

As a result of heating:

hydrogen chloride (HCl)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification procedure

If not otherwise specified the classification is based on:

Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

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Skin corrosion/irritation

Causes severe skin burns and eye damage.

Classification procedure

The classification is based on an extreme pH value.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Skin sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)

Test data are not available for the complete mixture.

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Aquatic toxicity (acute) of components of the mixture

Aquatic toxicity (acute) of components of the mixture						
Name of substance	CAS No	Endpoint	Value	Species	Source	Exposure time
hydrochloric acid ...%	7647-01-0	LC50	20.5 mg/l	bluegill (Lepomis macrochirus)	ECHA	96 h

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

12.2 Persistence and degradability

Biodegradation

The study does not need to be conducted because the substance is inorganic.

Persistence

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

None of the ingredients are listed.

Remarks

Water hazard class - WHC (Wassergefährdungsklasse): 1

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

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Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	UN number	1789
14.2	UN proper shipping name	HYDROCHLORIC ACID
14.3	Transport hazard class(es)	
	Class	8
14.4	Packing group	II
14.5	Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6	Special precautions for user	
		Provisions for dangerous goods (ADR) should be complied within the premises.
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	
		The cargo is not intended to be carried in bulk.
14.8	<u>Information for each of the UN Model Regulations</u>	
	Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)	
	UN number	1789
	Proper shipping name	UN1789, HYDROCHLORIC ACID, 8, II, (E)
	Class	8
	Classification code	C1
	Packing group	II
	Danger label(s)	8
	A diamond-shaped hazard pictogram with a black background and white border. It features a white triangle at the top containing a white skull and crossbones, and a white circle at the bottom containing a white flame. The number '8' is printed in white at the bottom of the diamond.	
	Special provisions (SP)	520
	Excepted quantities (EQ)	E2
	Limited quantities (LQ)	1 L
	Transport category (TC)	2.
	Tunnel restriction code (TRC)	E
	Hazard identification No	80

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Emergency Action Code	2R
International Maritime Dangerous Goods Code (IMDG)	
UN number	1789
Proper shipping name	UN1789, HYDROCHLORIC ACID, 8, II
Class	8
Marine pollutant	-
Packing group	II
Danger label(s)	8
A diamond-shaped hazard pictogram with a black background and white symbols. It shows a liquid dripping from two test tubes onto a hand and a metal surface, representing a corrosive hazard.	
Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	C
Segregation group	1 - Acids.

International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1789
Proper shipping name	UN1789, Hydrochloric acid, 8, II
Class	8
Packing group	II
Danger label(s)	8
A diamond-shaped hazard pictogram with a black background and white symbols. It shows a liquid dripping from two test tubes onto a hand and a metal surface, representing a corrosive hazard.	
Special provisions (SP)	A3
Excepted quantities (EQ)	E2
Limited quantities (LQ)	0,5 L

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

none of the ingredients are listed

List of substances subject to authorisation (REACH, Annex XIV)

none of the ingredients are listed

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

none of the ingredients are listed

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

none of the ingredients are listed

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

none of the ingredients are listed

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

none of the ingredients are listed

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)
8.1		Relevant DNELs of components of the mixture: change in the listing (table)
8.1		Relevant PNECs of components of the mixture: change in the listing (table)
14.8	Proper shipping name: UN1789, HYDROCHLORIC ACID, (contains: HYDROCHLORIC ACID), 8, II, (E)	Proper shipping name: UN1789, HYDROCHLORIC ACID, 8, II, (E)
14.8	Proper shipping name: UN1789, HYDROCHLORIC ACID, (contains: HYDROCHLORIC ACID), 8, II	Proper shipping name: UN1789, HYDROCHLORIC ACID, 8, II
14.8		Marine pollutant: -

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Section	Former entry (text/value)	Actual entry (text/value)
14.8	Proper shipping name: UN1789, Hydrochloric acid, (contains: HYDRO- CHLORIC ACID), 8, II	Proper shipping name: UN1789, Hydrochloric acid, 8, II

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Comission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
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)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
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
EmS	Emergency Schedule
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
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
IOELV	Indicative occupational exposure limit value
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals

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Abbr.	Descriptions of used abbreviations
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)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

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

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

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

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

Code	Text
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

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Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.