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Safety data sheet for Battery acid (diluted sulphuric acid)

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

1.1 Product identifier

Trade name:	Akkumulatorensäure 1,140 - 1,400
Other names or synonyms:	Sulphuric acid Akkumulatorensäure 1,140 (Schwefelsäure ~ 20%) Akkumulatorensäure 1,180 (Schwefelsäure ~ 25%) Akkumulatorensäure 1,280 Akkumulatorensäure 1,285 (Schwefelsäure ~ 38%) Akkumulatorensäure 1,295 (Schwefelsäure ~ 39%) Akkumulatorensäure 1,350 (Schwefelsäure ~ 45%) Akkumulatorensäure 1,395 (Schwefelsäure ~ 50%) Akkumulatorensäure 1,400 (Schwefelsäure ~ 50%)
Registration number (REACH):	nicht relevant (Gemisch)
CAS number:	nicht relevant (Gemisch)

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

Relevant identified uses:	Chemicals for various applications battery acid
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

Company:	Contact:
Panther-Batterien GmbH	Mr. Clemens Poppe
In den Wiesen 2	Telephone: + 49 (0) 5494 98058 44
49451 Holdorf	Fax: + 49 (0) 5494 98058 55
GERMANY	Email: poppe@panther-batterien.de

1.4 Emergency telephone number

As above or next toxicological information centre.

2 Composition/information on ingredients

2.1 Substances

not relevant (mixture)

2.2 Mixtures

Description of the mixture



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Hazardous ingredients						
Name of substance	Identifier	Wt%	Classification acc. to GHS	Notes	Specific Conc. Limits	Pictograms
sulfuric acid	CAS No 7664-93-9 EC No 231-639-5 REACH Reg.- No 01- 2119458838- 20	20-50	Met. Corr. 1 / H290 Skin Corr. 1A / H314 Eye Dam. 1 / H318	B(a) GHS-HC IOELV	Skin Corr. 1A; H314: C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Dam. 1; H318: C ≥ 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	

Notes

- B(a): The classification refers to an aqueous solution.
 GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to HC: 1272/2008/EC, Annex VI)
 IOELV: Substance with a community indicative occupational exposure limit value.

3 Hazards identification

Classification of the substance or mixture

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

Classification				
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	1A	Skin Corr. 1A	H314
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318

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.

3.2 Label elements

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



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Signal word: danger

Pictograms

GHS05



Hazard statements

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
P310 Immediately call a POISON CENTER/doctor.
Hazardous ingredients for labelling: Sulfuric acid

3.3 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.

4 First aid measures

4.1 Description of first aid measures

General notes:

- » Self-protection of the first aider.
- » Take off immediately all contaminated clothing.
- » In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation:

- » Provide fresh air.
- » If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact:

- » Take off immediately all contaminated clothing.
- » After contact with skin, wash immediately with plenty of water/propylene glycol 400.
- » Call a physician immediately. Causes poorly healing wounds.
- » Wash contaminated clothing before reuse.

Following eye contact:

- » Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.
- » Remove contact lenses, if present and easy to do. Continue rinsing.
- » Call a physician in any case.



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Following ingestion:

- » Rinse mouth immediately and drink plenty of water.
- » Do NOT induce vomiting.
- » Get immediate medical advice/attention.

Notes for the doctor:

- » Subsequent observance for pneumonia and pulmonary oedema.

4.2 Most important symptoms and effects, both acute and delayed

Causes poorly healing wounds.

Causes severe skin burns and eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

None

5 Accidental release measures

5.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

- » Remove persons to safety.
- » Ventilate affected area.
- » Avoid inhaling sprayed product.
- » Do not get in eyes, on skin, or on clothing.
- » 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.

For emergency responders:

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

5.2 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.

5.3 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.

5.4 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.

Firefighting measures

6 6.1 Extinguishing media

Non-combustible.

Co-ordinate firefighting measures to the fire surroundings.

6.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Substance or mixture corrosive to metals.

6.3 Hazardous combustion products

sulphur oxides (SO_x), Corrosive gases / vapors

6.4 Advice for firefighters

- » 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.

Special protective equipment for firefighters:

- » use suitable breathing apparatus.

7 Handling and storage

7.1 Precautions for safe handling

- » Provision of sufficient ventilation.
- » Avoid contact with skin and eyes.
- » Do not breathe vapour/spray.
- » Handle and open container with care.
- » When diluting, always stir the product into standing water.

Measures to prevent fire as well as aerosol and dust generation:

- » Use local and general ventilation.
- » Never add water to this product.

Specific notes/details:

- » None.

Handling of incompatible substances or mixtures:

- » Do not mix with alkali.
- » Keep away from organic absorbing material, pulp/paper, caustic solutions, strong oxidisers, metals, textiles.

7.2 Measures to protect the environment

- » Avoid release to the environment.

7.3 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.



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- » Remove contaminated clothing and protective equipment before entering eating areas.

7.4 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.
- » Store away from caustic solutions.
- » Hypochlorites store separately.
- » Protect against external exposure, such as frost

Consideration of other advice:

- » Keep away from food, drink and animal feedingstuffs.

Ventilation requirements:

- » Provision of sufficient ventilation.

Specific designs for storage rooms or vessels:

- » Keep container tightly closed and dry.
- » Hygroscopic substance.

Packaging compatibilities:

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

7.5 Specific end use(s)

- » No information available.

8 Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)							
Country	Name of agent	CAS No	Notation	Identifier	TWA (mg/m ³)	STEL (mg/m ³)	Source
EU	sulfuric acid	7664-93-9	i	t, mist	0.05		2017/2398/EU
GB	Schwefelsäure	7664-93-9	i	t, mist	0.05		EH40/2005

Notation:

mist	as mists.
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)
t	thoracic fraction.
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 of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Verwendung in	Expositionsdauer
sulfuric acid	7664-93-9	DNEL	0,05 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
sulfuric acid	7664-93-9	PNEC	0,003 mg/l	freshwater
sulfuric acid	7664-93-9	PNEC	0 mg/l	marine water
sulfuric acid	7664-93-9	PNEC	8,8 mg/l	sewage treatment plant (STP)
sulfuric acid	7664-93-9	PNEC	0,002 mg/kg	freshwater sediment
sulfuric acid	7664-93-9	PNEC	0,002 mg/kg	marine sediment

8.2 Exposure controls

Appropriate engineering controls:

- » General ventilation.

Individual protection measures (personal protective equipment):

- » Wear suitable protective clothing.

Eye/face protection:

- » Wear eye/face protection.

Hand protection:

Material	Material thickness	Breakthrough times of the glove material
CR: chloroprene (chlorobutadiene) rubber	≥ 0,65 mm	>480 minutes (permeation: level 6)
IIR: isobutene-isoprene (butyl) rubber	≥ 0,65 mm	>480 minutes (permeation: level 6)
FKM: fluoro-elastomer	≥ 0,4 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.



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Respiratory protection:

- » In case of inadequate ventilation wear respiratory protection.
- » Type: B (against inorganic gases and vapours, colour code: Grey).

Environmental exposure controls:

- » Use appropriate container to avoid environmental contamination.
- » Keep away from drains, surface and ground water.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	fluid
Colour:	colourless
Odour:	odourless
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:	>100 °C
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:	these information are not available
Density:	1,14 – 1,4 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
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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:	these information are not available

Explosive properties:	not explosive
Oxidising properties:	shall not be classified as oxidising





9.2 Other information

None

10 Stability and reactivity

10.1 Reactivity

Substance or mixture corrosive to metals.

10.2 Chemical stability

See below „Conditions to avoid“.

10.3 Possibility of hazardous reactions

Reacts with water, releasing excess pressure or heat. Strong exothermic reaction with strong alkalis. Light metals (due to the release of hydrogen in an acid/alkaline medium).

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

bases, oxidisers

Release of flammable materials with:

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

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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 of components of the mixture						
Name of substance	CAS-Nr.	Expositionsweg	Endpunkt	Wert	Spezies	Quelle
sulfuric acid	7664-93-9	oral	LD50	2.140 mg/kg	rat	ECHA
sulfuric acid	7664-93-9	inhalation: dust/mist	LC50	0,85 mg/l/4h	mouse	ECHA

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:

Shall not be classified as a skin sensitiser.

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:

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure:

Classification could not be established because:

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

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.

12 Ecological information

12.1 Toxicity

Aquatic toxicity (acute):

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture:

Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
sulfuric acid	7664-93-9	EC50	>100 mg/l	Daphnia magna	OECD Guideline 202	ECHA	48 h
sulfuric acid	7664-93-9	ErC50	>100 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201	ECHA	72 h
sulfuric acid	7664-93-9	LC50	>16 – <28 mg/l	bluegill (Lepomis macrochirus)		ECHA	96 h

Aquatic toxicity (chronic):

Test data are not available for the complete mixture.





Aquatic toxicity (chronic) of components of the mixture							
Name of substance	CAS No	Endpoint	Value	Species	Method	Source	Exposure time
sulfuric acid	7664-93-9	NOEC	0,025 mg/l	fish		ECHA	65 d

12.2 Persistence and degradability

Persistence:

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

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

Harmful effect on fish, plankton and other organisms due to pH shift possible.

Endocrine disrupting potential:

None of the ingredients are listed.

Remarks:

Wassergefährdungsklasse, WGK (water hazard class): 1

13 Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

Sewage disposal-relevant information:

Do not empty into drains.

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.

14 Transport information

UN number: 2796
UN proper shipping name: SULPHURIC ACID

Transportgefahrenklassen

Class: 8



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Packing group: II
Environmental hazards: non-environmentally hazardous acc. to the dangerous goods regulations

14.1 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.2 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

14.3 Information for each of the UN Model Regulations

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

UN-Nummer: 2796
Proper shipping name: UN2796, SULPHURIC ACID, (SULPHURIC ACID, solution), 8, II, (E)
Class: 8
Classification code: C1
Packing group: II
Danger label(s): 8



Excepted quantities (EQ): E2
Limited quantities (LQ): 1 L
Transport category (TC): 2.
Tunnel restriction code (TRC): E
Hazard identification No: 80
Emergency Action Code: 2R

International Maritime Dangerous Goods Code (IMDG):

UN number: 2796
Proper shipping name: UN2796, Sulphuric acid, (SULPHURIC ACID, solution), 8, II
Class: 8
Marine pollutant: -
Packing group: II
Danger label(s): 8



Special provisions (SP): -
Excepted quantities (EQ): E2
Limited quantities (LQ): 1 L
EmS: F-A, S-B
Stowage category: B
Segregation group: 1 - Acids.

International Civil Aviation Organization (ICAO-IATA/DGR):

UN number: 2796
Proper shipping name: UN2796, Sulphuric acid, (SULPHURIC ACID, solution), 8, II
Class: 8
Packing group: II
Danger label(s): 8



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Excepted quantities (EQ): E2
 Limited quantities (LQ): 0,5 L

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:

Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	Type of registration	Restriction	No
Sulphuric Acid	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	1907/2006/EC annex XVII	R3	3
Sulphuric Acid	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	1907/2006/EC annex XVII	R3	3

Legend

- R3
1. Shall not be used in:
 - » ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - » tricks and jokes,
 - » games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 2. Articles not complying with paragraph 1 shall not be placed on the market.
 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - » can be used as fuel in decorative oil lamps for supply to the general public, and,
 - » present an aspiration hazard and are labelled with R65 or H304,
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - » a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage';
 - » b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage';





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- » c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list:

none of the ingredients are listed

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 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):

kein Bestandteil ist gelistet.

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

Explosives precursors which are subject to restrictions				
Name of substance	CAS No	Type of registration	CN Code 1	CN Code 2
sulfuric acid	7664-93-9	Annex II	2807 00 10	3824 90 97

Legende

- Anhang II: Substances on their own or in mixtures or in substances for which suspicious transactions shall be reported.
- CN Code 1: Combined Nomenclature (CN) code for a separate chemically defined compound meeting the requirements of Note 1 to Chapter 28 or 29 of the CN, respectively.
- CN Code 2: Combined Nomenclature (CN) code for a mixture without constituents (e.g. mercury, precious or rare-earth metals or radioactive substances) which would determine classification under another CN code.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier. Chemical safety assessments for substances in this mixture were not carried out.



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16 Other information

Abbreviations and acronyms:

Abbr.	Descriptions of used abbreviations
2017/2398/EU	Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work.
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.
CN Code	Combined Nomenclature.
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.
NLP	No-Longer Polymer.
PBT	Persistent, Bioaccumulative and Toxic.
PNEC	Predicted No-Effect Concentration.
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).
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.



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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.
NLP	No-Longer Polymer.
PBT	Persistent, Bioaccumulative and Toxic.
PNEC	Predicted No-Effect Concentration.
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.
SVHC	Substance of Very High Concern.
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.

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.

