Safety Data Sheet

RH2PS - RHODIUM PEN PLATING SOLUTION 2G/100ML SUPER WHITE COLOR

Safety Data Sheet dated 12/3/2024 version 7

Compliant with regulation (CE) n. 1907/2006 REACH, Annex II, and subsequent amendments introduced by Commission Regulation (EU) no. 2020/878

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

1.1. Product identifier

Mixture identification:

Trade name: RH2PS - RHODIUM PEN PLATING SOLUTION 2G/100ML SUPER WHITE COLOR

Trade code: RH2PS

Product type and use: RHODIUM PEN PLATING SOLUTION

Registration Number N/A

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

Recommended use: For electroplating industry; For jewelry industry; For metallic surface treatment

Uses advised against: All other uses not intended for the electroplating and jewellery industry are not recommended.

1.3. Details of the supplier of the safety data sheet

Company: LEGOR GROUP S.p.A.

Via del Lavoro, 1

36050 Bressanvido (VI)

Italy

Tel.: +39.0444.467911

Fax.: +39.0444. 660677

Competent person responsible for the safety data sheet: info@legor.com

1.4. Emergency telephone number

CENTRO ANTIVELENO: "Ospedale Pediatrico Bambino Gesù" – Roma
Tel. (+39) 06.6859.3726

CENTRO ANTIVELENO: "Azienda Ospedaliera Università di Foggia" – Foggia
Tel. 800.183.459

CENTRO ANTIVELENO: "Azienda Ospedaliera A. Cardarelli" – Napoli
Tel. (+39) 081.545.3333

CENTRO ANTIVELENO: Policlinico "Umberto I" – Roma
Tel. (+39) 06.4997.8000

CENTRO ANTIVELENO: Policlinico "A. Gemelli" – Roma
Tel. (+39) 06.305.4343

CENTRO ANTIVELENO: Azienda Ospedaliera "Careggi" U.O. Tossicologia Medica – Firenze
Tel. (+39) 055.794.7819

CENTRO ANTIVELENO: Centro Nazionale di Informazione Tossicologica – Pavia
Tel. (+39) 0382.24.444

CENTRO ANTIVELENO: Ospedale Niguarda – Milano
Tel. (+39) 02.66.1010.29

CENTRO ANTIVELENO: Azienda Ospedaliera Papa Giovanni XXIII – Bergamo
Tel. 800.88.33.00

CENTRO ANTIVELENO Centro Antiveleni Veneto – Verona
Tel. 800.011.858

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Skin Corr. 1A Causes severe skin burns and eye damage.

Eye Dam. 1 Causes serious eye damage.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Pictograms and Signal Words

Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

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 doctor.

P501 Dispose of contents/container in accordance with applicable regulations.

Contains

Rhodium (III) sulfate

Sulphuric acid 15%

Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: RH2PS - RHODIUM PEN PLATING SOLUTION 2G/100ML SUPER WHITE COLOR

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥15 - <25 %	Sulfuric acid ...%	CAS:7664-93-9 EC:231-639-5 Index:016-020-00-8	Skin Corr. 1A, H314 Eye Dam. 1, H318 Specific Concentration Limits: 5% ≤ C < 15%: Eye Irrit. 2 H319 5% ≤ C < 15%: Skin Irrit. 2 H315 C ≥ 15%: Skin Corr. 1A H314	01-2119458838-20-xxxx
≥1 - <5 %	Rhodium (III) sulfate	CAS:10489-46-0	Skin Corr. 1A, H314	

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediatley and dispose off safely.

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

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

Eye contact: Causes serious eye damage.; Skin contact: Causes severe burns; Ingestion: negative symptoms may include the following: stomach pains, corrosive to the digestive tract, causes burns.; Inhalation: May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment: Treat symptomatically.; Contact a doctor immediately.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Non-combustible. Use extinguishing agent suitable for the surrounding fire.

Extinguishing media which must not be used for safety reasons:

None reasonably predictable.

5.2. Special hazards arising from the substance or mixture

In a fire or if heated, a pressure increase will occur and the container may burst. In the presence of fire, note caustic and corrosive effect. See Section 11 for more detailed information on health effects and symptoms.

5.3. Advice for firefighters

Firefighters must wear protective equipment and a self-contained breathing apparatus (SCBA) with a full-face mask on the face operating at positive pressure. Firefighters' clothing (including helmets, protective boots and gloves) complying with European Standard EN 469 will provide basic level protection for chemical accidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

No action should be taken involving any personal risk or without appropriate training. Evacuate surrounding areas. Prevent foreign and unprotected personnel from entering. Do not touch or walk on spilled material. Avoid breathing vapours or mists. Provide adequate ventilation. Wear a suitable respirator in case of inadequate ventilation. Wear appropriate personal protective equipment.

For emergency responders:

If spill management requires the use of special clothing, note any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-direct responders".

6.2. Environmental precautions

Avoid dispersal and run-off of spilled material and contact with soil, water courses, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, land or air).

6.3. Methods and material for containment and cleaning up

For cleaning up:

Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.

Other information:

For emergency numbers, see section 1.

Refer to the protective measures listed in section 8 and 13.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Avoid generation of vapor, mist or aerosols.; Keep away from: alkali metals , alkaline-earth metals , light metal, cyanides.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
Sulfuric acid ...% CAS: 7664-93-9	EU		Long Term: 0.05 mg/m3 thoracic fraction
	NATIONAL	ITALY	Long Term: 0.05 mg/m3 thoracic fraction
	ACGIH		Long Term: 0.2 mg/m3 (T), A2(M) - Pulm func
	NDS/NDSCh	POLAND	Long Term: 1 mg/m3; Short Term: 3 mg/m3
	WEL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 0.05 mg/m3

Predicted No Effect Concentration (PNEC) values

Sulfuric acid ...% CAS: 7664-93-9	Exposure Route: STP; Exposure Frequency: Environmentally not effective limit; PNEC Limit: 8.8 mg/l
	Exposure Route: Freshwater sediments; Exposure Frequency: Environmentally not effective limit; PNEC Limit: 0.002 mg/kg/d
	Exposure Route: Marine water sediments; Exposure Frequency: Environmentally not effective limit; PNEC Limit: 0.002 mg/kg/d
	Exposure Route: Fresh Water; Exposure Frequency: Environmentally not effective limit; PNEC Limit: 0.0025 mg/l
	Exposure Route: Marine water; Exposure Frequency: Environmentally not effective limit; PNEC Limit: 0.00025 mg/l

Derived No Effect Level (DNEL) values

Sulfuric acid ...% CAS: 7664-93-9	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 0.05 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 0.1 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 0.04 mg/m3

8.2. Exposure controls

Eye protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Protection for skin:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: chemical-resistant protective suit (EN 14605).

Protection for hands:

Chemical-resistant and impermeable gloves complying with approved standards must always be used when handling chemicals if the risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves still retain their protective properties. Note that the permeation time for any glove material may vary depending on the glove manufacturer. In the case of mixtures, consisting of several substances, it is not possible to accurately estimate the glove protection time. ; Recommendations:

The following materials are suitable for protective gloves (Permeation time >= 8 hours):

Polychloroprene-CR (0,5mm)

Nitrile rubber/Nitrile latex - NBR (0,35 mm)

Butyl rubber - Butyl (0,5 mm)

Fluoro carbon rubber - FKM (0,4 mm)

Polyvinyl chloride - PVC (0,5 mm)

Following materials are unsuitable for protective gloves because of degradation, severe swelling or low permeation time:

Natural rubber/Natural latex - NR

Respiratory protection:

In an emergency (e.g.: unintentional release of the substance, exceeding the occupational exposure limit value) respiratory protection must be worn. Consider the maximum period for wear.; Respiratory protection: Combined E - P2 filter, colour-coded yellow-white. ; Use the isolating device for concentrations above the limits of use for filter devices, for oxygen concentrations below 17% by volume or in unclear circumstances.

Thermal Hazards:

About thermal risks, see Section 5 and 10.

Environmental exposure controls:

Emissions from production processes, including those from ventilation equipment, should be controlled in order to comply with environmental protection regulations. Product residues must not be discharged unchecked into waste water or watercourses.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Color: orange

Odour: Odourless

Odour threshold: N.A.

pH: 0,00

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1,15 g/cm3

Solubility in water: Total

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Nanoforms dispersion stability: N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Particle characteristics:

Particle size: N.A.

9.2. Other information

VOC: N.A.

Miscibility: N.A.

Conductivity: N.A.

Evaporation rate: N.A.

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

The product is stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

It may generate flammable gases on contact with dithiocarbamates, elementary metals, and nitrides.

It may generate toxic gases on contact with amides, aliphatic and aromatic amines, azo, diazo, and hydrazine compounds, carbamates, inorganic fluorides, halogenated organic substances, isocyanates, sulphides, organic nitrous compounds , organophosphat

It may catch fire on contact with alcohols and glycols, aldehydes, dithiocarbamates, esthers, ethers, aromatic and aliphatic hydrocarbons, halogenated organic substances, isocyanates, ketones, sulphides, organic nitrous compounds, phenols, and cresols.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Reactive or incompatible with the following materials:; Alkali; Metals; cyanides; Reducing materials

10.6. Hazardous decomposition products

Decomposition products may include the following materials: ; Sulphur oxides (SOx); Carbon monoxide (CO); Carbon dioxide (CO_2); HCN, cyanidric acid

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Corr. 1A(H314)
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	Not classified
	Based on available data, the classification criteria are not met
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

Sulfuric acid ...%	a) acute toxicity	LD50 Oral Rat = 2140 mg/kg	
		LC50 Inhalation Vapour Rat = 375 mg/m3	Fischer 344 OECD Guideline 403 (Acute Inhalation Toxicity)

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Sulfuric acid ...%	CAS: 7664-93-9 - EINECS: 231-639-5 - INDEX: 016-020-00-8	a) Aquatic acute toxicity : LC50 Fish Pandalus montagui = 42.5 mg/l 48h
		a) Aquatic acute toxicity : EC50 Daphnia magna > 100 mg/l 72h
		b) Aquatic chronic toxicity : NOEC Fish Jordanella floridae 0.025 mg/l
		b) Aquatic chronic toxicity : NOEC Shellfish Tanytarsus dissimilis 0.15 mg/l

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT Ingredients are present

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

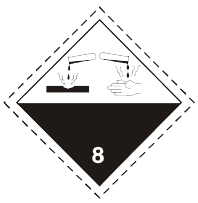
N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information



14.1. UN number or ID number

2796

14.2. UN proper shipping name

ADR-Shipping Name: SULPHURIC ACID

IATA-Technical name: SULPHURIC ACID with 51% or less acid

IMDG-Technical name: SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID

14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

No

Environmental Pollutant: No

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: -

ADR-Transport category (Tunnel restriction code): 2 (E)

Air (IATA):

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: -

Sea (IMDG):

IMDG-Stowage Code: Category B

IMDG-Stowage Note: SGG1a SG36 SG49

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: -

IMDG-EMS: F-A, S-B

IMDG-MFAG: N/A

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 2020/878

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

Class 3: extremely hazardous.

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Code	Hazard class and hazard category	Description
3.2/1A	Skin Corr. 1A	Skin corrosion, Category 1A
3.3/1	Eye Dam. 1	Serious eye damage, Category 1

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.2/1A	On basis of test data (pH)
3.3/1	On basis of test data (pH)

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: KAFH
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 4. FIRST AID MEASURES
- 5. FIRE-FIGHTING MEASURES
- 6. ACCIDENTAL RELEASE MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 10. STABILITY AND REACTIVITY
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 16. OTHER INFORMATION