

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 18.07.2018

Version number 19

Revision: 27.06.2018

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

1.1 Product identifier**Product name:** Persulfate RGT for CR powder**Catalog number:** 00537309, 537300, 4537300**1.2 Relevant identified uses of the substance or mixture and uses advised against****Application of the substance / the preparation:** Reagent for water analysis**1.3 Details of the supplier of the safety data sheet****Supplier:**

Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com

phone: +49 231 94510-0
e-mail: sales@tintometer.de

Tintometer GmbH
Division AQUALYTIC®
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44287 Dortmund
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The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom

phone : +44 1980 664800
e-mail: SDS@tintometer.com

Informing department:

e-mail: sds@tintometer.de
Product Safety Department

1.4 Emergency telephone number:

+44 1235 239670
Languages: English

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008**

GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

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2.2 Label elements

- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05 GHS08

Signal word Danger

Hazard-determining components of labelling:

sodium hydrogensulphate
potassium persulphate

Hazard statements

H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.

Precautionary statements

P261 Avoid breathing dust.
P302+P352 IF ON SKIN: Wash with plenty of water.
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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

- **Description:** Mixture of inorganic compounds.

Dangerous components:

CAS: 7681-38-1 EINECS: 231-665-7 Index No: 016-046-00-X Reg.nr.: 01-2119552465-36-XXXX	sodium hydrogensulphate ☠ Eye Dam. 1, H318	25-35%
CAS: 7727-21-1 EINECS: 231-781-8 Index No: 016-061-00-1	potassium persulphate ☠ Ox. Sol. 3, H272; ☠ Resp. Sens. 1, H334; ☠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	1-≤2.5%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air or oxygen; call for doctor.
- **After skin contact**
Instantly rinse with water.
If skin irritation continues, consult a doctor.
If skin irritation or rash occurs: Get medical advice/attention.
- **After eye contact**
Rinse opened eye for several minutes (at least 15 min) under running water.
Call a doctor immediately.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
Seek medical treatment in case of complaints.
- **4.2 Most important symptoms and effects, both acute and delayed:**
burns

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after absorption:
 gastric or intestinal trouble
 sickness
 vomiting
 after swallowing of large amounts:
 diarrhoea
 irritations
 ataxia (impaired locomotor coordination)
 drop in temperature
 cardiovascular disorders

- **Danger**

Danger of pulmonary oedema.
 risk of airways sensitization

- **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

- **5.2 Special hazards arising from the substance or mixture**

The product is not combustible.
 Formation of toxic gases is possible during heating or in case of fire.
 Sulphur oxides (SO_x)
 Sodium oxide

- **5.3 Advice for firefighters**

- **Protective equipment:**

Wear self-contained breathing apparatus.
 Wear full protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.
 Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.
 Ensure adequate ventilation

- **Advice for emergency responders:** Protective equipment: see section 8

- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

- **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.
 Collect mechanically.
 Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

- **Advice on safe handling:**

Prevent formation of dust.
 Thorough dedusting.

- **Hygiene measures:**

Do not inhale dust / smoke / mist.
 Avoid contact with the skin.
 Avoid contact with the eyes.
 Take off immediately all contaminated clothing.
 Wash hands during breaks and at the end of the work.

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

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: Store in cool location.

Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions:

Store in cool, dry conditions in well sealed containers.

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

This product is hygroscopic.

Recommended storage temperature: 20°C +/- 5°C

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

Additional information: The lists that were valid during the compilation were used as basis.

8.2 Exposure controls
Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Personal protective equipment
Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.

Recommended filter device for short term use: Filter P2

Protection of hands:

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm
Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed safety glasses.

Body protection: Protective work clothing.

Limitation and supervision of exposure into the environment: Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Appearance:
Form / Physical state: Powder

Colour: White

Odour: Odourless

Odour threshold: Not applicable

pH-value (8.2 g/l) at 20°C: 2

Melting point/Freezing point: Not determined

Initial boiling point and boiling range: 891°C

Flash point: Not applicable

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· Flammability (solid, gas):	The product is not combustible.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not self-igniting.
· Explosive properties:	Product is not explosive.
· Flammability or explosive limits:	
Lower:	Not applicable
Upper:	Not applicable
· Oxidising properties:	none
· Vapour pressure:	Not applicable.
· Density at 20°C:	2.71 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies):	
Water:	Soluble
· Partition coefficient: n-octanol/water:	Not applicable.
· Viscosity:	Not applicable.
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Forms hydrogen in aqueous solution with metals
Aqueous solution reacts with metals.
Liberates acid in contact with water or alcohol.
Reacts with strong alkalis and oxidizing agents.
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:**
metals
aluminium
- **10.6 Hazardous decomposition products:**
oxygen
see section 5

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

CAS: 7681-38-1 sodium hydrogensulphate

Oral	LD50	2490 mg/kg (rat) (IUCLID)
Dermal	LD50.	>2000 mg/kg (rabbit)

CAS: 7727-21-1 potassium persulphate

Oral	LD50	802 mg/kg (rat) (RTECS)
Dermal	LD50	>10000 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

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Serious eye damage/irritation

Causes serious eye damage.
Risk of corneal clouding.

Information on components:

CAS 7727-21-1: chronic: dermatitis

CAS: 7681-38-1 sodium hydrogensulphate

Irritation of skin OECD 404 (rabbit: no irritation)

Irritation of eyes OECD 405 (rabbit: severe irritations)

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction) The following statements refer to the mixture:

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT (specific target organ toxicity) -single exposure Based on available data, the classification criteria are not met.

STOT (specific target organ toxicity) -repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
CAS: 7681-38-1 sodium hydrogensulphate

 EC50 190 mg/l/48h (Daphnia magna)
(IUCLID)

CAS: 7727-21-1 potassium persulphate

EC50 120 mg/l/48h (Daphnia magna)

Bacterial toxicity:

sulphates toxic > 2.5 g/l

CAS: 7681-38-1 sodium hydrogensulphate

EC10 >1000 mg/l (Pseudomonas putida) (16 h)

CAS: 7727-21-1 potassium persulphate

EC50 83.7 mg/l (Bacterial toxicity) (72h)

Other information:

Toxic for fish:
sulphates > 7 g/l

12.2 Persistence and degradability
Other information:

Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

12.6 Other adverse effects

Reacts with water to form toxic decomposition products.
Avoid transfer into the environment.

Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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Hand over to disposers of hazardous waste.

European waste catalogue

16 05 07* discarded inorganic chemicals consisting of or containing hazardous substances

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

14.1 UN-Number
ADR, IMDG, IATA

Void

14.2 UN proper shipping name
ADR, IMDG, IATA

Void

14.3 Transport hazard class(es)
ADR, IMDG, IATA
Class

Void

14.4 Packing group
ADR, IMDG, IATA

Void

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Transport/Additional information:

Not dangerous according to the above specifications.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

Directive 2012/18/EU (SEVESO III):
Named dangerous substances - ANNEX I None of the ingredients is listed.

Regulation (EU) No 649/2012

None of the ingredients is listed.

Information about limitation of use: Employment restrictions concerning young persons must be observed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

Training hints Provide adequate information, instruction and training for operators.

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Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 3: Oxidizing solids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Sources Data arise from safety data sheets, reference works and literature.

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