



## Safety Data Sheet

### Potassium persulfate

#### Section 1: Chemical Product and Company Identification

**Product Name:** Potassium persulfate

**Catalog Codes:** 459

**CAS#:** 7727-21-1

**RTECS:** SE0400000

**Synonym:** Potassium peroxodisulfate

**Chemical Name:** Potassium peroxodisulfate

**Chemical Formula:** K<sub>2</sub>O<sub>8</sub>S<sub>2</sub>

**Contact Information:**

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#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Potassium persulfate	7727-21-1	100

**Toxicological Data on Ingredients:** LD50 Oral - Rat - female - 700 mg/kg. LD50 Dermal - Rat - male and female - > 2.000 mg/kg.

#### Section 3: Hazards Identification

**Classification of the substance or mixture**

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

Oxidizing solids (Category 3), H272

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Respiratory sensitization (Category 1), H334

Skin sensitization (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

## Label elements

### Labelling according Regulation (EC) No 1272/2008

#### Pictogram



Signal word

Danger

Hazard statement(s)

H272

May intensify fire; oxidizer.

H302

Harmful if swallowed.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H334

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

H335

May cause respiratory irritation.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

P301 + P312

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P302 + P352

IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

none

### Reduced Labeling (<= 125 ml)

#### Pictogram



Signal word

Danger

Hazard statement(s)

H334

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

H317

May cause an allergic skin reaction.

Precautionary statement(s)

P302 + P352

P304 + P340 + P312

Supplemental Hazard Statements

IF ON SKIN: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

none

**Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Section 4: First Aid Measures**

**Description of first-aid measures**

**General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

**If inhaled**

After inhalation: fresh air. Call in physician.

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 3) and/or in section 11

**Indication of any immediate medical attention and special treatment needed**

No data available

## Section 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Sulfur oxides

Potassium oxides

Container explosion may occur under fire conditions.

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

#### Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### Environmental precautions

Do not let product enter drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### Reference to other sections

For disposal see section 13.

## Section 7: Handling and Storage

### Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 3.

### Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials.

Moisture sensitive.

## Section 8: Exposure Controls/Personal Protection

### Control parameters

### Ingredients with workplace control parameters

### Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Full contact**

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Splash contact**

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

**Body Protection**

protective clothing

**Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

**Control of environmental exposure**

Do not let product enter drains.

**Section 9: Physical and Chemical Properties****Information on basic physical and chemical properties**

a) Appearance	Form: solid Color white
b) Odor	odorless
c) Odor Threshold	Not applicable
d) pH	2,5 - 4,5 at 27 g/l at 25 °C
e) Melting point/freezing point	Melting point: 100 °C
f) Initial boiling point and boiling range	No data available

g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid,gas)	The product is not flammable. - Flammability (solids)
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	< 0,1 hPa at 25 °C - OECD Test Guideline 104
l) Vapor density	9,33 - (Air = 1.0)
m) Density	2,477 g/cm <sup>3</sup>
Relative density	1,39 at 20 °C - Regulation (EC) No. 440/2008, Annex, A.3
n) Water solubility	27 g/l at 20 °C - completely soluble
o) Partition coefficient: n-octanol/water	- Not applicable for inorganic substances
p) Autoignition temperature	> 600 °C - DIN 51794 does not ignite
q) Decomposition temperature	170 °C -
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	The substance or mixture is classified as oxidizing with Bthe category 3.

**Other safety information**

Relative vapor density	9,33 - (Air = 1.0)
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## Section 10: Stability and Reactivity Data

### Reactivity

No data available

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Exothermic reaction with:

Reducing agents

combustible substances

Sodium hydroxide

Potassium hydroxide

alkali hydroxides

Water

### Conditions to avoid

Exposure to moisture. Heat.

no information available

### Incompatible materials

No data available

### Hazardous decomposition products

In the event of fire: see section 5

## Section 11: Toxicological Information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - 700 mg/kg

(OECD Test Guideline 401)

Remarks: (in analogy to similar compounds)

The value is given in analogy to the following substances: Ammonium peroxodisulphate

LC50 Inhalation - Rat - male and female - 4 h -  $\geq$  2,95 mg/l

(US-EPA)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Ammonium peroxodisulphate

Inhalation: Irritating to respiratory system.

LD50 Dermal - Rat - male and female -  $>$  2.000 mg/kg

(US-EPA)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Ammonium peroxodisulphate



**Skin corrosion/irritation**

Causes skin irritation. (Regulation (EC) No 1272/2008, Annex VI)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Causes serious eye irritation.

(OECD Test Guideline 405)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Ammonium peroxodisulphate

(Regulation (EC) No 1272/2008, Annex VI)

**Respiratory or skin sensitization**

Freund's complete adjuvant test - Guinea pig

Result: positive

(OECD Test Guideline 406)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

**Germ cell mutagenicity**

Test Type: Ames test

Test system: *S. typhimurium*

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (in analogy to similar products)

(ECHA)

The value is given in analogy to the following substances: disodium peroxodisulphate

Test Type: unscheduled DNA synthesis assay

Test system: rat hepatocytes

Method: US-EPA

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: disodium peroxodisulphate

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal

Method: OECD Test Guideline 474

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: disodium peroxodisulphate

Test Type: unscheduled DNA synthesis assay

Species: Rat

Cell type: Liver cells

Application Route: Oral

Method: OECD Test Guideline 486

Result: negative

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: disodium peroxodisulphate

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation. - Respiratory system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

Repeated dose toxicity - Rat - male - Oral - 90 Days - NOAEL (No observed adverse effect level) - 91 mg/kg - LOAEL (Lowest observed adverse effect level) - 200 mg/kg

Remarks: (in analogy to similar products)

RTECS: SE0400000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Section 12: Ecological Information****Toxicity**

Toxicity to fish

static test LC50 - Oncorhynchus mykiss (rainbow trout) - 76,3 mg/l - 96 h

Remarks: (in analogy to similar products)  
(ECHA)

The value is given in analogy to the following substances: Ammonium peroxodisulphate

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 120 mg/l - 48 h

Remarks: (in analogy to similar products)  
(ECHA)

The value is given in analogy to the following substances: Ammonium peroxodisulphate

Toxicity to algae

static test ErC50 - Phaeodactylum tricornutum - 320 mg/l - 72 h  
(OECD Test Guideline 201)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Ammonium

## Peroxodisulphate

Toxicity to bacteria static test EC50 - Pseudomonas putida - 36 mg/l - 18 h  
Remarks: (in analogy to similar products)  
(ECHA)  
The value is given in analogy to the following substances: Ammonium peroxodisulphate

### **Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

### **Bioaccumulative potential**

No data available

### **Mobility in soil**

No data available

### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### **Other adverse effects**

No data available

## Section 13: Disposal Considerations

### **Waste treatment methods**

#### **Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## Section 14: Transport Information

#### **UN number**

ADR/RID: 1492

IMDG: 1492

IATA: 1492

#### **UN proper shipping name**

ADR/RID: POTASSIUM PERSULPHATE

IMDG: POTASSIUM PERSULPHATE

IATA: Potassium persulphate

#### **Transport hazard class(es)**

ADR/RID: 5.1

IMDG: 5.1

IATA: 5.1

**Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**

No data available

**Section 15: Other Regulatory Information****Safety, health and environmental regulations/legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

**National legislation**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

**Other regulations**

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.

**Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

**Section 16: Other Information**

**References:** Not available

**Other Special Considerations:** Not available

**Created:** 08/2022

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