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: $K_2O_8S_2$

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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	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.
Supplemental Hazard Statements	none

Other hazards
This substance/mixture contains no components considered to be eitherpersistent, 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 authorizedpersons. 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).

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).
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 entrepeneur 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	3.2
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/cm3
Relative density	1,39 at 20 °C - Regulation (EC) No. 440/2008, Annex, A.3
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	- Not applicable for inorganic substances
p) Autoignition	> 600 °C
temperature	- DIN 51794does 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 Bthecategory 3.

Other safety information

Relative vapor density	9,33 - (Air = 1.0)

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 - >= 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 peroxodisulphateTest
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. : OXIDISING LIQUIDS AND SOLIDS

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

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