

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form	: Substance
Trade name	: Potassium persulfate
EC index no	: 016-061-00-1
EC no	: 231-781-8
CAS No	: 7727-21-1
Product code	: 05419
Formula	: K ₂ S ₂ O ₈
Chemical structure	: $\begin{array}{c} \text{O} \\ \parallel \\ \text{KO}-\text{S}-\text{O}-\text{O}-\text{S}-\text{OK} \\ \parallel \qquad \parallel \\ \text{O} \qquad \qquad \text{O} \end{array}$
Synonyms	: Potassium peroxodisulfate

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

SPAN LAB
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)
401208 Mumbai - INDIA
PH: +91 9820509929
info@spanlab.in www.spanlab.in

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Oxidising Solids, Category 2	H272
Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Sensitisation — Respiratory, category 1	H334

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Sensitisation — Skin, category 1 H317
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

Full text of classification categories and H statements : see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

O; R8
Xn; R22
R42
Xi; R36/37/38
R43

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS03

GHS07

GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H272 - May intensify fire; oxidiser
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 statements (CLP) : P220 - Keep/Store away from clothing/.../combustible materials
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Name	: POTASSIUM PERSULPHATE EXTRA PURE
CAS No	: 7727-21-1
EC no	: 231-781-8
EC index no	: 016-061-00-1

Full text of R- and H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Take off contaminated clothing. Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. If you feel unwell, seek medical advice.

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

Symptoms/injuries after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: Causes serious eye irritation.
Symptoms/injuries after ingestion	: Harmful if swallowed.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO ₂).
Unsuitable extinguishing media	: Do not use extinguishing media containing water.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: May intensify fire; oxidiser.
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5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: No naked lights. No smoking.
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6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
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Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Large spills: scoop solid spill into closing containers.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.
Storage conditions : Keep in fireproof place. Keep container tightly closed.
Incompatible materials : Heat sources. combustible materials.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment : Wear fire/flare resistant/retardant clothing.
Hand protection : protective gloves
Eye protection : Chemical goggles or safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : Wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Colour : White powder.
Odour : odourless.
Odour threshold : No data available
pH : 2.5 - 4.5
Relative evaporation rate (butylacetate=1) : No data available

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Melting point	: 100 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: 9.3
Relative density	: No data available
Density	: 2.48 g/cm ³
Solubility	: Water: 27 g/l at 20 °C - completely soluble
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: May cause fire or explosion; strong oxidiser.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

May intensify fire; oxidiser.

10.2. Chemical stability

May cause fire or explosion; strong oxidiser.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Do not allow contact with water. Moisture. Air contact. Direct sunlight.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

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Skin corrosion/irritation	: Causes skin irritation. pH: 2.5 - 4.5
Serious eye damage/irritation	: Causes serious eye irritation. pH: 2.5 - 4.5
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose of contents/container to ...
Additional information	: Hazardous waste due to potential risk of explosion.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR)	: 1492
UN-No. (IMDG)	: 1492
UN-No.(IATA)	: 1492
UN-No.(ADN)	: 1492
UN-No. (RID)	: 1492

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: POTASSIUM PERSULPHATE
Proper Shipping Name (IMDG)	: POTASSIUM PERSULPHATE
Proper Shipping Name (IATA)	: POTASSIUM PERSULPHATE
Proper Shipping Name (ADN)	: POTASSIUM PERSULPHATE
Proper Shipping Name (RID)	: POTASSIUM PERSULPHATE
Transport document description (ADR)	: UN 1492 POTASSIUM PERSULPHATE, 5.1, III, (E)
Transport document description (IMDG)	: UN 1492 POTASSIUM PERSULPHATE, 5.1, III
Transport document description (IATA)	: UN 1492 POTASSIUM PERSULPHATE, 5.1, III
Transport document description (ADN)	: UN 1492 POTASSIUM PERSULPHATE, 5.1, III
Transport document description (RID)	: UN 1492 POTASSIUM PERSULPHATE, 5.1, III

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	: 5.1
Danger labels (ADR)	: 5.1



IMDG

Transport hazard class(es) (IMDG)	: 5.1
Danger labels (IMDG)	: 5.1



IATA

Transport hazard class(es) (IATA)	: 5.1
Hazard labels (IATA)	: 5.1

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ADN

Transport hazard class(es) (ADN) : 5.1

Danger labels (ADN) : 5.1



RID

Transport hazard class(es) (RID) : 5.1

Danger labels (RID) : 5.1



14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : O2

Limited quantities (ADR) : 5kg

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P002, IBC08, LP02, R001

Special packing provisions (ADR) : B3

Mixed packing provisions (ADR) : MP10

Portable tank and bulk container instructions (ADR) : T1

Portable tank and bulk container special provisions (ADR) : TP33

Tank code (ADR) : SGAV

Tank special provisions (ADR) : TU3

Vehicle for tank carriage : AT

Transport category (ADR) : 3

Special provisions for carriage - Bulk (ADR) : VC1, VC2, AP6, AP7

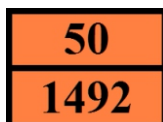
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Special provisions for carriage - Loading, unloading and handling (ADR) : CV24

Hazard identification number (Kemler No.) : 50

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 1Z

- Transport by sea

Limited quantities (IMDG) : 5 kg

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : P002, LP02

IBC packing instructions (IMDG) : IBC08

IBC special provisions (IMDG) : B3

Tank instructions (IMDG) : T1

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-Q

Stowage category (IMDG) : A

Segregation (IMDG) : SG39, SG49

MFAG-No : 140

- Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y546

PCA limited quantity max net quantity (IATA) : 10kg

PCA packing instructions (IATA) : 559

PCA max net quantity (IATA) : 25kg

CAO packing instructions (IATA) : 563

CAO max net quantity (IATA) : 100kg

ERG code (IATA) : 5L

- Inland waterway transport

Classification code (ADN) : O2

Limited quantities (ADN) : 5 kg

Excepted quantities (ADN) : E1

Equipment required (ADN) : PP

Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : O2

Limited quantities (RID) : 5kg

Excepted quantities (RID) : E1

Packing instructions (RID) : P002, IBC08, LP02, R001

Special packing provisions (RID) : B3

Mixed packing provisions (RID) : MP10

Portable tank and bulk container instructions (RID) : T1

Portable tank and bulk container special provisions (RID) : TP33

Tank codes for RID tanks (RID) : SGAV

Special provisions for RID tanks (RID) : TU3

Transport category (RID) : 3

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Special provisions for carriage – Bulk (RID) : VC1, VC2, AP6, AP7
Special provisions for carriage – Loading and unloading (RID) : CW24
Colis express (express parcels) (RID) : CE11
Hazard identification number (RID) : 50

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Potassium persulfate is not on the REACH Candidate List
Potassium persulfate is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 1, slightly hazardous to water (Classification according to VwVwS, Annex 2; WGK No 1350)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Ox. Sol. 2	Oxidising Solids, Category 2
Resp. Sens. 1	Sensitisation — Respiratory, category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1

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STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H272	May intensify fire; oxidiser
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
R22	Harmful if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin
R42	May cause sensitization by inhalation
R43	May cause sensitisation by skin contact
R8	Contact with combustible material may cause fire
O	Oxidising
Xi	Irritant
Xn	Harmful

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product