

MSDS *Material Safety Data Sheet*

From: Avantor Performance Materials, Inc.
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24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service, 1-855-AVANTOR (855-282-6867) for assistance.

POTASSIUM PERSULFATE

1. Product Identification

Synonyms: Peroxydisulfuric acid, dipotassium salt; dipotassium persulfate; Potassium Peroxydisulfate

CAS No.: 7727-21-1

Molecular Weight: 270.32

Chemical Formula: K₂S₂O₈

Product Codes:

J.T. Baker: 3238, 3239

Macron: 7076

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium Persulfate	7727-21-1	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. HARMFUL IF SWALLOWED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe

Flammability Rating: 0 - None

Reactivity Rating: 3 - Severe (Oxidizer)

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Yellow (Reactive)

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. High concentrations can cause pulmonary edema.

Ingestion:

Irritating to the gastro-intestinal tract, mildly toxic in large amounts. Abdominal pain, vomiting, diarrhea may occur.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. May cause dermatitis, burns, and moderate skin necrosis. Persulfate allergy is not uncommon and manifest itself in the form of a skin rash.

Eye Contact:

Causes irritation, redness, and pain. May cause burns.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

Allergic persons may develop skin rash.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Contact with oxidizable substances may cause extremely violent combustion. Decomposes with liberation of oxygen which may intensify surrounding fire conditions.

Explosion:

Strong oxidants may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions.

Fire Extinguishing Media:

Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Do not allow water runoff to enter sewers or waterways.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Thermal decomposition is strongly exothermic.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

ACGIH (TLV) TWA: 0.1 mg/m³

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White powder.

Odor:

Odorless.

Solubility:

4.7 g in 100 g water.

Specific Gravity:

2.48

pH:

Aqueous solution is acidic.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

Not applicable.

Melting Point:

100C (212F) Decomposes completely @

Vapor Density (Air=1):

9.30

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Unstable. Gradually decomposes losing oxygen. Decomposes more rapidly at higher temperatures. Metals other than stainless steel are apt to cause decomposition of persulfate solutions.

Hazardous Decomposition Products:

Oxides of sulfur and the contained metal. Oxygen is released.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Powdered metals, phosphorus, hydrides, organic matter, halogens, acids, alkalis.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral rat LD50: 802 mg/kg.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Potassium Persulfate (7727-21-1)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: POTASSIUM PERSULFATE

Hazard Class: 5.1

UN/NA: UN1492

Packing Group: III

Information reported for product/size: 225LB

International (Water, I.M.O.)

Proper Shipping Name: POTASSIUM PERSULPHATE

Hazard Class: 5.1

UN/NA: UN1492

Packing Group: III

Information reported for product/size: 225LB

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----
Ingredient TSCA EC Japan Australia

Potassium Persulfate (7727-21-1) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----
Ingredient Korea DSL NDSL Phil.

Potassium Persulfate (7727-21-1) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----
-SARA 302- -SARA 313-
Ingredient RQ TPQ List Chemical Catg.

Potassium Persulfate (7727-21-1) No No No No

-----\Federal, State & International Regulations - Part 2\-----
-RCRA- -TSCA-
Ingredient CERCLA 261.33 8(d)

Potassium Persulfate (7727-21-1) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: 2P
Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **1** Flammability: **0** Reactivity: **0** Other: **Oxidizer**

Label Hazard Warning:

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. HARMFUL IF SWALLOWED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Label Precautions:

Keep from contact with clothing and other combustible materials. Store in a tightly closed container. Do not store near combustible materials. Remove and wash contaminated clothing promptly. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

Product Use: Laboratory Reagent.

Revision Information: No Changes.

Disclaimer:

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Prepared by: Environmental Health & Safety