

# Material Safety Data Sheet

## Ammonium peroxydisulfate

ACC# 01340

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Ammonium peroxydisulfate**Catalog Numbers:** AC201530000, AC201530010, AC201531000, AC327080000, AC327081000, AC401160000, AC401161000, 40116-0020, 40116-0100, 40116-5000, A682-10, A682-3, A682-500, BP179-100, BP179-25**Synonyms:** Ammonium persulfate; Peroxydisulfuric acid diammonium salt.**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7727-54-0	Ammonium persulfate	98	231-786-5

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white to light yellow powder.

**Danger!** Strong oxidizer. Contact with other material may cause a fire. Causes eye, skin, and respiratory tract irritation. May cause allergic respiratory and skin reaction. Harmful if swallowed. May cause sensitization by inhalation and by skin contact.**Target Organs:** Respiratory system, eyes, skin.**Potential Health Effects****Eye:** Causes eye irritation.**Skin:** Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause dermatitis.**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract.**Inhalation:** Causes respiratory tract irritation. May cause allergic respiratory reaction. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause respiratory sensitization.

**Chronic:** Repeated or prolonged exposure may cause allergic reactions in sensitive individuals.

## Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

**Extinguishing Media:** Use water spray, dry chemical, or carbon dioxide. Cool containers with flooding quantities of water until well after fire is out.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 1; Instability: 2; Special Hazard: OX

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. Keep combustibles (wood, paper, oil, etc.,) away from spilled material.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation.

**Storage:** Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry,

well-ventilated area away from incompatible substances. Keep away from reducing agents. Store protected from moisture.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ammonium persulfate	0.1 mg/m <sup>3</sup> TWA (as Persulfate) (listed under Persulfates, inorganic, n.o.s.).	none listed	none listed

**OSHA Vacated PELs:** Ammonium persulfate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Powder

**Appearance:** white to light yellow

**Odor:** odorless

**pH:** 3.2 (100 g/L)

**Vapor Pressure:** Negligible.

**Vapor Density:** Not available.

**Evaporation Rate:** Negligible.

**Viscosity:** Not available.

**Boiling Point:** Decomposes.

**Freezing/Melting Point:** 120 deg C

**Decomposition Temperature:** 120 deg C

**Solubility:** 582 g/l (20°C), may decompose

**Specific Gravity/Density:** 1.982 (water=1)

**Molecular Formula:** (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub>

**Molecular Weight:** 228.19

## Section 10 - Stability and Reactivity

**Chemical Stability:** Decomposes when heated. May decompose on exposure to moist air or water.

Moisture sensitive.

**Conditions to Avoid:** High temperatures, incompatible materials, ignition sources, combustible materials, heating to decomposition, exposure to moist air or water.

**Incompatibilities with Other Materials:** Reducing agents, iron, copper, metals, magnesium, zinc, finely powdered metals, lead, silver, nickel, aluminum, combustible materials, strong oxidizing agents, peroxides.

**Hazardous Decomposition Products:** Nitrogen oxides, carbon monoxide, oxides of sulfur, carbon dioxide, ammonia and/or derivatives, nitrogen gas.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 7727-54-0: SE0350000

**LD50/LC50:**

CAS# 7727-54-0:

Oral, rat: LD50 = 689 mg/kg;

Other: Oral rat LD50 = 495 mg/kg; Oral rat LD50 = 400-800 mg/kg; Skin rat LD50 = 2000 mg/kg; Ames test (bacteria): negative; Eye rabbit: no irritation (OECD 405); Skin rabbit: no irritation (OECD 404); Sensibilization guinea pig: positive (OECD 406)

**Carcinogenicity:**

CAS# 7727-54-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** The occurrence of frequent skin rashes, causing both irritant dermatitis & hypersensitivity reactions, was found in workers producing ammonium & potassium persulfates. The rashes were reduced by the use of protective clothing & gloves & improved dustremoval from the workplace air. Others reported asthma in hairdressers that was induced by exposure to persulfates.

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Daphnia: Daphnia: 120ppm; 48 Hrs.; TLm Fresh waterFish: Rainbow trout: 76.3ppm; 96 Hrs.; TLmFish: Bluegill/Sunfish: 103ppm; 96 Hrs.; TLmAlgae: 33 mg/L; ; Bacteria: Pseudomonas putida: EC50: 36 mg/L; 18H; No data available.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** Do not empty into drains.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous

waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	AMMONIUM PERSULFATE	AMMONIUM PERSULFATE
<b>Hazard Class:</b>	5.1	5.1
<b>UN Number:</b>	UN1444	UN1444
<b>Packing Group:</b>	III	III

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7727-54-0 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 7727-54-0: immediate, reactive.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7727-54-0 can be found on the following state right to know lists: New Jersey.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**  
**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN O

**Risk Phrases:**

- R 22 Harmful if swallowed.
- R 36/37/38 Irritating to eyes, respiratory system and skin.
- R 42/43 May cause sensitization by inhalation and skin contact.
- R 8 Contact with combustible material may cause fire.

**Safety Phrases:**

- S 22 Do not breathe dust.
- S 24 Avoid contact with skin.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 37 Wear suitable gloves.

**WGK (Water Danger/Protection)**

CAS# 7727-54-0: 1

**Canada - DSL/NDSL**

CAS# 7727-54-0 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D2B, C, D1B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 7727-54-0 is not listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 7/20/1999

**Revision #13 Date:** 2/11/2008

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