1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY INFORMATION

Catalog Number: 802829

Product name: AMMONIUM PERSULFATE

Synonyms: Ammonium Peroxydisulfate

Supplier:
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH  44139
tel: 440-337-1200

Emergency telephone number: CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Weight %</th>
<th>ACGIH Exposure Limits</th>
<th>OSHA Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIUM PERSULFATE</td>
<td>7727-54-0</td>
<td>90 - 100%</td>
<td>0.1 mg/m³ TWA</td>
<td>None</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Harmful by inhalation, in contact with skin and if swallowed. Contact with combustible material may cause fire

Category of Danger:
Oxidizer, Harmful

Principle routes of exposure: Skin
Inhalation: Harmful by inhalation.
Ingestion: Harmful if swallowed.
Skin contact: Harmful in contact with skin.
Eye contact: Risk of serious damage to eyes

Statements of hazard HARMFUL IF SWALLOWED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR INHALED.
May cause fires.

Statement of Spill or Leak - ANSI Label Eliminate all ignition sources. Absorb and/or contain spill with inert materials (e.g., sand, vermiculite). Then place in appropriate container. For large spills, use water spray to disperse vapors, flush spill area. Prevent runoff from entering waterways or sewers.

Statement of First Aid If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

Precautions - ANSI Label Do not taste or swallow. Wash thoroughly after handling. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Avoid breathing vapors. Avoid contact with skin, eyes and clothing.
4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation: Move to fresh air. Call a physician immediately.

Skin contact: Rinse immediately with plenty of water and seek medical advice

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician Drink 1 or 2 glasses of water. Induce vomiting, but only if victim is fully conscious. Obtain medical attention.

Eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Protection of first-aiders: No information available

Medical conditions aggravated by exposure: None known

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Use dry chemical, CO2, water spray or ‘alcohol’ foam.

Specific hazards: Burning produces irritant fumes.

Unusual hazards: None known

Special protective equipment for firefighters: Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire and/or explosion do not breathe fumes.

Specific methods: Water mist may be used to cool closed containers.

Autoignition temperature: Not determined

Flash point: Not determined

NFPA rating: NFPA Health: 2
NFPA Flammability: 2
NFPA Reactivity: 1
NFPA Special Note: ox

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.

Environmental precautions: Prevent product from entering drains.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Storage:
ROOM TEMPERATURE
DESICCATE

Handling: Use only in area provided with appropriate exhaust ventilation.

Safe handling advice: Wear personal protective equipment. Remove and wash contaminated clothing before reuse.

Technical measures/storage conditions: Keep containers tightly closed in a cool, well-ventilated place. Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. For safety reasons in case of fire, cans should be stored separately in closed containments. Do not expose material to high temperatures, changes in pressure or sudden shock. Keep away from contact with clothing and other combustible materials.

Incompatible products: Oxidising and spontaneously flammable products
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection: In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection: Pvc or other plastic material gloves

Skin and body protection: Impervious clothing

Eye protection: If splashes are likely to occur, wear: Safety glasses with side-shields

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: colorless to light straw solid; mild unpleasant odor

Physical state: Powder

Formula: H3N•1/2H2O8S2

Molecular weight: 228.18

Melting point/range: 120 °C with decomposition

Boiling point/range: No Data available at this time.

Density: 950 - 1050 kg/m³ (bulk density)

Vapor pressure: No data available

Evaporation rate: No data available

Vapor density: No data available

Solubility (in water): Soluble

Flash point: Not determined

Autoignition temperature: Not determined

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Polymerization: None under normal processing.

Hazardous decomposition products: Nitrogen oxides (NOx)/ammonia/CN-, Sulphur oxides


Conditions to avoid: Exposure to air or moisture over prolonged periods.

11. TOXICOLOGICAL INFORMATION

Product Information

Acute toxicity

Components

AMMONIUM PERSULFATE

RTECS Number: SE0350000

Selected LD50s and LC50s

Oral LD50 Rat : 689 mg/kg

Chronic toxicity:

Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.

Local effects:

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Specific effects:

May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.

Primary irritation:

No data is available on the product itself.

Carcinogenic effects:

No data is available on the product itself.

Mutagenic effects:

No data is available on the product itself.

Reproductive toxicity:

No data is available on the product itself.
12. ECOLOGICAL INFORMATION

Mobility: No data available
Bioaccumulation: No data available
Ecotoxicity effects: No data available
Aquatic toxicity: May cause long-term adverse effects in the aquatic environment.

Components

<table>
<thead>
<tr>
<th>U.S. DOT - Appendix B - Marine Pollutant</th>
<th>U.S. DOT - Appendix B - Severe Marine Pollutants</th>
<th>United Kingdom - The Red List:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIUM PERSULFATE Not Listed</td>
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<tr>
<th>Germany VCI (WGK)</th>
<th>World Health Organization (WHO) - Drinking Water</th>
<th>Ecotoxicity - Fish Species Data</th>
</tr>
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<tbody>
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<tr>
<th>Ecotoxicity - Freshwater Algae Data</th>
<th>Ecotoxicity - Microtox Data</th>
<th>Ecotoxicity - Water Flea Data</th>
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<tr>
<th>EPA - ATSDR Priority List</th>
<th>EPA - HPV Challenge Program Chemical List</th>
<th>California - Priority Toxic Pollutants</th>
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13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

Contaminated packaging: Do not re-use empty containers

14. TRANSPORT INFORMATION

UN/Id No: 1444

DOT:

<table>
<thead>
<tr>
<th>Proper shipping name: Ammonium persulphate</th>
</tr>
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<tr>
<td>IATA Hazard Label(s): Oxidizer</td>
</tr>
<tr>
<td>Hazard Class: 5.1 - Oxidizers III</td>
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Packing group:

Emergency Response Guide Number (ERG): 140

Components

<table>
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<th>U.S. DOT - Appendix A Table 1 - Reportable Quantities</th>
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</tbody>
</table>
TDG (Canada):

WHMIS hazard class:

C oxidizing materials
D2b toxic materials

IMDG/IMO

Proper shipping name: Ammonium persulphate

IMDG - Hazard Classifications
IMDG class or division = 5.1
UN1444

IMDG - Regulated Substances
Components
U.S. DOT - Appendix B - Marine Pollutant
Not Listed

U.S. DOT - Appendix B - Severe Marine Pollutants
Not Listed

IMO-labels:

15. REGULATORY INFORMATION

International Inventories

Components
AMMONIUM PERSULFATE
Inventory - United States TSCA - Sect. 8(b) Present
Canada DSL Inventory List - Present
Australia (AICS): Present
Inventory - China: Present
EU EINECS List - 231-786-5; H3N.1/2H2O8S2
Inventory - Japan: 1-406
Korean KECL: KE-09815
Philippines PICCS: Present

U.S. regulations:

Components
AMMONIUM PERSULFATE
California Proposition 65 - Not Listed
Massachusetts Right to Know List: Not Listed
New Jersey Right to Know List: sn 0111
Pennsylvania Right to Know List: Not Listed

Components
AMMONIUM PERSULFATE
Florida substance List: Not Listed
Rhode Island Right to Know List: Not Listed
Illinois - Toxic Air Contaminants Not Listed
Connecticut - Hazardous Air Pollutants Not Listed

Components
AMMONIUM PERSULFATE
SARA 313 Emission reporting/Toxic Release of Chemicals
Not Listed
CERCLA/SARA - Section 302 Extremely Haz None
NTP: None
IARC: None
SARA 313 Notification: The above is your notification as to the SARA 313 listing for this product(s) pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

If you are unsure if you are subject to the reporting requirements of Section 313, or need more information, please call the EPA Emergency Planning and Community Right-To-Know Information Hotline: (800) 535-0202 or (202) 479-2499 (in Washington, DC or Alaska).

State Notification: The above information is your notice as to the Right-to-Know listings of the stated product(s). Individual states will list chemicals for a variety of reasons including, but not limited to, the compounds toxicity; carcinogenic, tumorigenic and/or reproductive hazards; and the compounds environmental impact if accidentally released.

16. OTHER INFORMATION

Prepared by: Health & Safety

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End of Safety Data Sheet