1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME AMMONIUM PERSULFATE, MOLECULAR BIOLOGY GRADE

CAS NUMBER 7727-54-0

ROI NUMBER 9530A

SYNONYMS Ammonium peroxodisulfate, Molecular Biology Grade

MANUFACTURER/SUPPLIER Research Organics

4353 E 49th Street
Cleveland, Ohio
44125	USA

TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE:

INFOTRAC 800-535-5053

TELEPHONE NUMBERS - GENERAL ASSISTANCE:

Product Information 800-321-0570

2 COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Percentage*</th>
<th>Exposure Limits/Health Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIUM PERSULFATE, MOLECULAR BIOLOGY GRADE</td>
<td>7727-54-0</td>
<td>100 %</td>
<td>ACGIH TLV TWA: 0.1 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HARMFUL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% SEVERELY IRRITATING.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% POSSIBLE SENSITIZER.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% OXIDIZER</td>
</tr>
</tbody>
</table>

*Values do not reflect absolute minimums and maximums; those values may vary from time to time.

3 HAZARDS IDENTIFICATION

Emergency Overview

WARNING!

HARMFUL IF SWALLOWED OR INHALED
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN
SEVERELY IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT
OXIDIZER - KEEP AWAY FROM FLAMMABLE / COMBUSTIBLE MATERIAL.
POSSIBLE SENSITIZER - MAY CAUSE ALLERGIC REACTION IN CERTAIN INDIVIDUALS.

Potential Health Effects Skin

SEVERELY IRRITATING.
This material will cause skin irritation, resulting in reddening, itching, and inflammation.
May be absorbed through the skin.  
May cause an allergic reaction in some individuals.

**Potential Health Effect Eyes**

SEVERELY IRRITATING.  
This material can cause eye irritation.  Redness, tearing, and blurred vision may result. May be harmful in contact with eyes.

**Potential Health Effects Inhalation**

SEVERELY IRRITATING.  
Causes severe irritation to the respiratory tract.  
Harmful if Inhaled.  The degree of injury will depend on the airborne concentration and duration of exposure.  
May cause allergic reactions in some individuals.

**Potential Health Effect Ingestion**

Harmful if ingested. Exposure can cause nausea, headache and vomiting.  
If ingested, this material may cause irritation to the mouth, throat and gastrointestinal tract.

**Special Toxic Effects**

CAUTION!  THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED.

**Target Organs**

ND

4 FIRST AID MEASURES

**Skin**

Immediately flush skin with plenty of water, for at least 15 minutes, while removing contaminated clothing and shoes.  Contaminated clothing must be laundered before reuse. Get medical attention if irritation develops or persists.

**Eyes**

Flush immediately with large amounts of water for at least 15 minutes.  Eyelids should be held away from the eyeball to ensure thorough rinsing.  
Get medical attention if irritation persists.

**Inhalation**

Safely remove victim to fresh air.  If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen.  
GET IMMEDIATE MEDICAL ATTENTION.

**Ingestion**

If swallowed, wash out mouth with water provided person is conscious.  
Never give anything by mouth to an unconscious person.  
GET IMMEDIATE MEDICAL ATTENTION.

5 FIRE FIGHTING MEASURES

**Hazardous Combustion Products**

MAY EMIT TOXIC FUMES UNDER FIRE CONDITIONS.
6 ACCIDENTAL RELEASE MEASURES

Emergency Action
Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. (See Personal Protection Information Section.)

Environmental Precautions
Isolate hazard area and deny entry. Keep unnecessary people away. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material.

Spill or Leak Procedure
Vacuum or sweep up material and place in a disposal container. Clean up spills immediately under qualified supervision observing precautions in Protective Equipment section. Avoid clean up procedures that generate dust or result in water pollution.

After removal, scrub the contaminated area with detergent and flush thoroughly with water. Absorb wash liquid and place in the disposable container. Do not flush to sewer. Avoid runoff into storm sewers and ditches which lead to waterways.

7 HANDLING AND STORAGE

Handling
DO NOT GET IN EYES, ON SKIN OR CLOTHING.
Minimize dust generation during handling and contact.
Wash hands thoroughly before eating, drinking or smoking.

Storage
Store at room temperature.
Moisture sensitive material.
Keep containers tightly closed and upright when not in use.

Storage Hazards
Store away from organic materials.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls
Facilities using or storing this material must be equipped with an eyewash station and safety shower.

Eye Protection PPE
Avoid eye contact with this material. Wear chemical safety goggles.
Do not wear contact lenses when working with this substance.

Skin Protection PPE
Showering and changing into street clothing after work is recommended.
Avoid skin contact with this material. Use appropriate chemical protective gloves when handling.

**Respiratory Protection PPE**

Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstance where air purifying respirators may not provide adequate protection.

A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited.

9 **PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**

White Crystals

- **Boiling Point**: ND
- **Melting Point**: ND
- **Freezing Point**: ND
- **Vapor Density**: 7.9 G/L
- **Vapor Pressure**: ND
- **Specific Gravity**: 1.98@20C
- **Molecular Formula**: (NH4)2S2O8
- **Molecular Weight**: 228.2
- **pH**: ND

10 **STABILITY / REACTIVITY**

**Stability/Incompatibility**


**Decomposition Products**

Combustion may produce CO, CO2, NOx and/or SOx.

**Hazardous Polymerization**

Will not occur.

11 **TOXICOLOGICAL INFORMATION**

CAUTION! THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED. FOLLOW GOOD LABORATORY PRACTICES WHEN HANDLING.

**Routes of Exposure**

Inhalation, ingestion, skin and eye contact.

**LD50**

RTECS #SE0350000 (Peroxydisulfuric acid, diammonium salt)

The oral LD50 in rats is = 689 mg/kg.

Only selected data is presented here. See actual entry in RTECS for complete information.

REGISTRY OF THE TOXIC EFFECTS OF CHEMICAL SUBSTANCES(RTECS)

**Carcinogenicity**

NOT LISTED BY IARC, NTP OR OSHA AS A CARCINOGEN

12 **ECOLOGICAL INFORMATION**

**EcoToxicological Information**

Dangerous to aquatic life in high concentrations.

May be Dangerous if it enters water intakes.
Notify local health and wildlife officials. Notify operators of nearby water intakes.

AQUATIC TOXICITY: 120 ppm/48 hr/daphnia/TL~m/fresh water.

**Chemical Fate Information**

BIOLOGICAL OXYGEN DEMAND: None

DATA NOT YET AVAILABLE.

### 13 DISPOSAL CONSIDERATIONS

**Waste Disposal**

Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

If the material is determined to be a hazardous waste, the transportation, storage, treatment and disposal of this waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities.

### 14 TRANSPORTATION INFORMATION

**Department of Transportation (DOT) Requirements**

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>AMMONIUM PERSULFATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
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<tr>
<td>Packaging Group</td>
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<tr>
<td>Reportable Quantity</td>
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<tr>
<td>Labels Required</td>
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**Marine Pollutant (49 CFR 172.101 Appendix B)** No

### 15 REGULATORY INFORMATION

**Federal Regulations**

EPA TSCA Test Submission (TSCATS) Data Base, January 2001

OEL=MAK

NOHS 1974: HZD 06175; TNF 3573; NIS 43; NOS 44; TNE 55378.

NOES 1983: HZD 06175; TNF 14638; NIS 145; NOS 100; TNE 249578; TFE 81412.

This product is listed on the Inventory of Existing Chemical Substances under the Toxic Substances Control Act(TSCA). TSCA section 8(b).

**State Regulations**

Based on available information this material does not contain any components or chemicals currently known to the State of California to cause cancer, birth defects or reproductive harm at levels which would be subject to Proposition 65.

Reformulation, use or processing of this product may affect its composition and would require re-evaluation.

**International Regulations**

OEL-UNITED KINGDOM: TWA 1mg(S208), SEP2000

**International Phrases**

R -

| 8  | Contact with combustible material may cause fire. |
| 20/21/22 | Harmful by inhalation, in contact with skin and if swallowed. |
| 36/37/38 | Irritating to eyes, respiratory system and skin. |
| 42/43  | May cause sensitization by inhalation and skin contact. |
| 51  | Toxic to aquatic organisms. |
S - 17 Keep away from combustible material.
22 Do not breathe dust.
24/25 Avoid contact with skin and eyes.
36/37/39 Wear suitable protective clothing, gloves & eye/face protection.
38 In case of insufficient ventilation, wear suitable respiratory equipment.

EINECS - 231-786-5

SARA TITLE III RATINGS

<table>
<thead>
<tr>
<th>Immediate Hazard</th>
<th>Delayed Hazard</th>
<th>Fire Hazard</th>
<th>Pressure Hazard</th>
<th>Reactivity Hazard</th>
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<tr>
<td>☑</td>
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</table>

Section 313 Supplier Notification:
If this box is checked, this product contains EPCRA 313 chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). If you are unsure whether you are subject to reporting requirements or need more information, call EPA's ECPRA Call Center at (800) 424-9346 or (703) 412-9810.

NFPA(R) Ratings

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Special Hazards</th>
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<tbody>
<tr>
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<td>1</td>
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</table>

HMIS(R) RATINGS

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection Equipment</th>
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<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>1</td>
<td>F</td>
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</tbody>
</table>

NFPA is a registered trademark of National Fire Protection Association. HMIS is a registered trademark of National Paint and Coating Association.

16 OTHER INFORMATION

Disclaimer

The data contained in this Material Safety Data Sheet relates only to the specific material designated herein. It does not relate to use in combination with any other material or in any process. Research Organics, Inc. provides the information contained herein in good faith but make no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining it appropriateness for a particular purpose. Research Organics, Inc. makes no representations, or warranties, either expressed or implied, of merchantability, fitness for a particular purpose with respect to the information refers. Accordingly, Research Organics, Inc. will not be responsible for damages resulting from the use of reliance upon this information. In no instance is any Research Organics, Inc. product offered for drug, food, food additive or clinical use in humans.


Completed By: Environmental and Safety Department