SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier
Product form: Substance
Product name: Econo-PS1
Chemical name: Ammonium Persulfate
CAS No.: 7727-54-0
Synonyms: Powdered Breaker

Intended Use Of The Product
Use of the substance/mixture: Breaker. For professional use only.

Name, Address, And Telephone Of The Responsible Party
Economy® Polymers & Chemicals
435 E. Anderson Road
77047 Houston, TX
T 713-723-8416; 1-800-231-2066
www.economypolymers.com

Emergency Telephone Number
Emergency number : CHEMTREC 1-800-424-9300 (US); 703-527-3887 (International, collect calls are accepted)

SECTION 2: HAZARDS IDENTIFICATION

Classification Of The Substance Or Mixture
GHS-US classification
Ox. Sol. 3 H272
Acute Tox. 4 (Oral) H302
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Resp. Sens. 1 H334
Skin Sens. 1 H317
STOT SE 3 H335

Label Elements
GHS-US labeling
Hazard pictograms (GHS-US): ![](image)

Signal word (GHS-US): Danger

Hazard statements (GHS-US):
- H272 - May intensify fire; oxidizer
- 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 (GHS-US):
- P210 - Keep away from heat/sparks/open flames/hot surfaces - No smoking.
- P220 - Keep/Store away from clothing, combustible materials, and other incompatibilities.
- P221 - Take any precaution to avoid mixing with combustible materials, powdered metals, reducing agents, and/or strong bases.
- P261 - Avoid breathing dust.
- P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P301+P312 - If swallowed, call a doctor if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTER or doctor if you feel unwell.
P321 - Specific treatment (see section 4).
P330 - If swallowed, rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use water spray for extinction.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards  Not available
Unknown acute toxicity (GHS US)  Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substances</th>
<th>Name</th>
<th>Product Identifier</th>
<th>% (w/w)</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diammonium peroxodisulfate</td>
<td>(CAS No.) 7727-54-0</td>
<td>100</td>
<td>Ox. Sol. 3, H272</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Oral), H302</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Resp. Sens. 1, H334</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1, H317</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description Of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER/doctor/physician if you feel unwell. Keep at rest and in a position comfortable for breathing.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

Most Important Symptoms And Effects Both Acute and Delayed

General: Harmful if swallowed. Irritation to eyes, skin and respiratory tract. Exposure may produce an allergic reaction.

Inhalation: May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Eye Contact: Causes eye irritation.
**Ingestion:** Swallowing a small quantity of this material will result in serious health hazard.

**Chronic symptoms:** Inhalation may cause allergic respiratory reaction with asthma-like symptoms and difficulty breathing. May cause an allergic skin reaction.

**Indication Of Any Immediate Medical Attention And Special Treatment Needed**
If exposed or concerned, get medical advice and attention.

---

### SECTION 5: FIREFIGHTING MEASURES

**Extinguishing Media**
*Suitable extinguishing media:* Use extinguishing media appropriate for surrounding fire.

*Unsuitable extinguishing media:* Do not use carbon dioxide or other gas filled extinguishers; they are not effective against decomposing persulfate.

**Special Hazards Arising From The Substance Or Mixture**

**Fire hazard:** May intensify fire; oxidizer. Will burn if exposed to heat, and in addition, will accelerate the burning of other combustibles, resulting in more rapid spread of fire.

**Explosion hazard:** Risk of fire and explosion on contact with combustible substances or reducing agents.

**Reactivity:** May cause or intensify fire; oxidizer.

**Advice For Firefighters**

Precautionary measures fire: Exercise caution when fighting any chemical fire.

Firefighting instructions: Fight fire remotely due to the risk of explosion.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO\(_2\)). Sulfur oxides. Nitrogen oxides.

**Reference To Other Sections**
Refer to section 9 for flammability properties.

---

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment And Emergency Procedures**

**General measures:** Avoid all eyes and skin contact and do not breathe vapour and mist. Avoid contact with most metals, carbides, hydrogen sulfide, turpentine, organic acids, combustibles (wood, paper, cotton) and other organic and readily oxidized materials. Avoid generating dust.

**For Non-Emergency Personnel**

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Stop leak if safe to do so. Evacuate unnecessary personnel.

**For Emergency Personnel**

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Stop leak if safe to do so. Ventilate area.

**Environmental Precautions**

Prevent entry to sewers and public waters.

**Methods And Material For Containment And Cleaning Up**

For containment: Stop the flow of material, if this is without risk. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material.

For cleaning up: Clear up spills immediately and dispose of waste safely. Avoid generating dust during clean-up of spills.

**Reference To Other Sections**
See heading 8, exposure controls and personal protection.

---

### SECTION 7: HANDLING AND STORAGE

**Precautions For Safe Handling**

Additional hazards when processed: Hazardous waste due to potential risk of explosion on contact with incompatible materials.

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

**Conditions For Safe Storage, Including Any Incompatibilities**

Technical measures: Comply with applicable regulations.
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

<table>
<thead>
<tr>
<th></th>
<th>Alberta OEL TWA (mg/m³)</th>
<th>New Brunswick OEL TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Di(1)ammonium peroxodisulfate (7727-54-0)</td>
<td>0.1 mg/m³</td>
<td>0.1 mg/m³</td>
</tr>
</tbody>
</table>

Exposure Controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.


Materials for protective clothing: Chemically resistant materials and fabrics

Hand protection: Wear chemically resistant protective gloves.

Eye protection: Chemical goggles or safety glasses.

Skin and body protection: Wear fireproof clothing and protective shoes or boots.

Respiratory protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.

Other information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information On Basic Physical And Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White crystalline solid or powder</td>
</tr>
<tr>
<td>Odour</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>5.2 (1% solution)</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point</td>
<td>120 °C (248 °F)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Decomposes</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No evidence of combustion up to 600 °C (112 °F)</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower flammable limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper flammable limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>1.47 X 10^{-23} mmHg at 25 °C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density/Specific gravity</td>
<td>1.26 (water = 1)</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>228.2 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>850 g/L at 25 °C</td>
</tr>
</tbody>
</table>
Log Pow/Log Kow: Not available
Viscosity (kinematic, dynamic): Not available
Explosion data: Not available

SECTION 10: STABILITY AND REACTIVITY
Reactivity: May cause or intensify fire; oxidizer.
Chemical Stability: Stable at standard temperature and pressure.
Possibility Of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions To Avoid: Direct sunlight. Extremely high or low temperatures. Sparks. Open flame.

SECTION 11: TOXICOLOGICAL INFORMATION
Information On Toxicological Effects - Product
Acute toxicity: Harmful if swallowed.
LD50 and LC50 Data: Not available
Skin corrosion/irritation: Causes skin irritation [pH: 5.2 (1% solution)].
Serious eye damage/irritation: Causes serious eye irritation [pH: 5.2 (1% solution)].
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
Teratogenicity: Not available
Carcinogenicity: Not classified
Specific target organ toxicity (repeated exposure): Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): May cause respiratory irritation.
Aspiration hazard: Not classified
Potential Adverse human health effects and symptoms: Harmful if swallowed.
Symptoms/injuries after inhalation: May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/injuries after skin contact: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/injuries after eye contact: Causes eye irritation.
Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms: Inhalation may cause allergic respiratory reaction with asthma-like symptoms and difficulty breathing. May cause an allergic skin reaction.
Information On Toxicological Effects - Ingredient(s)
LD50 and LC50 Data

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>LD50 oral rat</th>
<th>LC50 inhalation rat (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diammonium peroxodisulfate (7727-54-0)</td>
<td>495 mg/kg</td>
<td>520 mg/l (Exposure time: 1 h)</td>
</tr>
</tbody>
</table>

SECTION 12: ECOLOGICAL INFORMATION
Toxicity
Diammonium peroxodisulfate (7727-54-0)
| LC50 fish 1 | 103 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| EC50 Daphnia 1 | 120 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC50 fish 2 | 76.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |

Persistence And Degradability
Econo-PS1 (7727-54-0)
Persistence and degradability: Not established.

Bioaccumulative Potential
**Econo-PS1**

Safety Data Sheet  
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Econo-PS1 (7727-54-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
<tr>
<td>Diammonium peroxodisulfate (7727-54-0)</td>
<td></td>
</tr>
<tr>
<td>BCF fish 1</td>
<td>(no bioaccumulation expected)</td>
</tr>
</tbody>
</table>

**Mobility In Soil**  
Not available

**Other Adverse Effects**

**Other information:** Avoid release to the environment.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste disposal recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**Additional information:** Hazardous waste due to potential risk of explosion.

**SECTION 14: TRANSPORT INFORMATION**

In accordance with ICAO/IATA/DOT/TDG

**UN Number**

**UN-No.(DOT):** 1444

**DOT NA no.:** UN1444

**UN Proper Shipping Name**

Proper Shipping Name (PSN): Ammonium persulfate

Department of Transportation (DOT) Hazard Classes: 5.1 - Class 5.1 - Oxidizer 49 CFR 173.128

Hazard labels (DOT): 5.1 - Oxidizer

**Packing group (DOT)**

Packing group III - Minor Danger

**DOT Special Provisions (49 CFR 172.102)**

A1 - Single packagings are not permitted on passenger aircraft.

A29 - Combination packagings consisting of outer expanded plastic boxes with inner plastic bags are not authorized for transportation by aircraft.

I88 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP3 - Flexible IBCs must be silt-proof and water-resistant or must be fitted with a silt-proof and water-resistant liner.

T1 - 1.5 178.274(d)(2) Normal............ 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this...
## DOT Packaging Exceptions (49 CFR 173.xxx)
- DOT Packaging Non Bulk : 152
- DOT Packaging Bulk : 213
- DOT Packaging Non Bulk : 240

### Additional information
- Emergency Response Guide (ERG) Number : 140

### Transport by sea
- DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

### Air transport
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

## SECTION 15: REGULATORY INFORMATION

### US Federal regulations

**Econo-PS1 (7727-54-0)**

| SARA Section 311/312 Hazard Classes | Reactive hazard
|                                      | Immediate (acute) health hazard

Diammonium peroxodisulfate (7727-54-0)

- Listed on the United States TSCA (Toxic Substances Control Act) inventory

### US State regulations

**Diammonium peroxodisulfate (7727-54-0)**

- U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
- U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Texas - Effects Screening Levels - Long Term
- U.S. - Texas - Effects Screening Levels - Short Term
- U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
- U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
- U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
- U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

### Canadian regulations

**Econo-PS1 (7727-54-0)**

| WHMIS Classification | Class C - Oxidizing Material
|                      | Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects
|                      | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
|                      | Class D Division 2 Subdivision B - Toxic material causing other toxic effects

**Diammonium peroxodisulfate (7727-54-0)**

- Listed on the Canadian DSL (Domestic Substances List) inventory.

| WHMIS Classification | Class C - Oxidizing Material
|                      | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
|                      | Class D Division 2 Subdivision B - Toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.
Econo-PS1
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 16: OTHER INFORMATION

<table>
<thead>
<tr>
<th>Indication of changes</th>
<th>08/23/2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information</td>
<td>This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.</td>
</tr>
</tbody>
</table>

GHS Full Text Phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Ox. Sol. 3</td>
<td>Oxidising solids Category 3</td>
</tr>
<tr>
<td>Resp. Sens. 1</td>
<td>Respiratory sensitisation Category 1</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>Skin sensitisation Category 1</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</td>
</tr>
<tr>
<td>H272</td>
<td>May intensify fire; oxidizer</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
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<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

Party Responsible For The Preparation Of This Document:

Economy Polymers & Chemicals
435 E. Anderson Road Houston, TX 77047
713-723-8416; 1-800-231-2066

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.