NITROSO-R-SALT

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION:
Synonyms: Nitro-R-Salt; 2,7-Naphthalenedisulfonic Acid, 3-Hydroxy-4-Nitroso-, Disodium Salt; 3-Hydroxy-4-Nitroso-2,7-Naphthalenedisulfonic Acid Disodium Salt; Disodium 3-Hydroxy-4-nitrosonaphthalene-2,7-Disulphonate.
CAS No.: 525-05-3
Molecular Weight: 377.1365.
Chemical Formula: C10H5NNa2O8S2.

2. COMPOSITION / INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Nitroso-2-Naphthol-3,6-Disulfonic Acid Disodium Salt Hydrate</td>
<td>525-05-3</td>
<td>ca.100%</td>
<td>No</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION:

Emergency Overview
Appearance: Yellow crystalline powder. CAUTION! The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.
Target Organs: No data found.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation. May be harmful if absorbed through the skin.
Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.
Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.
Chronic: No information found.

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. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do not induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Treat symptomatically and supportively.
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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.
Flash Point: Not available.
Auto-ignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (Estimated) Health: 1; Flammability: 0; Instability: 0.

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. Clean up spills immediately, observing precautions in the Protective Equipment Section. Avoid generating dusty conditions. Provide ventilation.

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. Avoid ingestion and inhalation.
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Nitroso-2-Naphthol-3,6-Disulfonic Acid Disodium Salt Hydrate</td>
<td>None listed</td>
<td>None listed</td>
<td>None listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: 1-Nitroso-2-Naphthol-3,6-Diculfonic Acid Disodium Salt Hydrate: 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 protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES:
Physical State: Crystalline powder.
Appearance: Yellow.
Odor: Not available.
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: >300 deg C
Decomposition Temperature: Not available.
Solubility: Slightly soluble.
Specific Gravity/Density: Not available.
Molecular Formula: C10H5NNa2O8S2.
Molecular Weight: 377.1365.

10. STABILITY AND REACTIVITY:
Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation, excess heat, strong oxidants.
Incompatibilities with Other Materials: Oxidizing agents.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION:
RTECS#: CAS# 525-05-3: QJ6480000
LD50/LC50: Not available.
Carcinogenicity: CAS# 525-05-3: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: No data available.

12. ECOLOGICAL INFORMATION:
Environmental Fate: No information available.
Environmental Toxicity: No data available.

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.

14. TRANSPORT REGULATIONS:
Not Regulated

15. REGULATORY INFORMATION:
US FEDERAL
TSCA CAS# 525-05-3 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.
SARA
Section 302 (RQ) & Section 302 (TPQ) None of the chemicals/materials have a RQ or TPQ.
SARA Codes CAS# 525-05-3: 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 depletors. This material does not contain any Class 2 depletors.
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# 525-05-3 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
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: Not available.
Risk Phrases: Not available.
Safety Phrases: S 24/25 Avoid contact with skin and eyes.
WGK (Water Danger/Protection) CAS# 252-05-3: No information available.
Canada - DSL/NDSL CAS# 525-05-3 is listed on Canada’s DSL List.
Canada - WHMIS: Not available.
Canadian Ingredient Disclosure List
Exposure Limits

16. DISCLAIMER INFORMATION:

DISCLAIMER:

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