SAFETY DATA SHEET

Date of issuing: 2006/03/01
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1. Chemical Product and Company Identification

Product name: SHINMYOTAN SP-RED
Information on company
  Company name: NAKATANI CO. LTD.
  Address: 3-9-3 Yushima, Bunkyo-ku, Tokyo, Japan
  Relevant division: Industrial Equipment Group
  Relevant person: Hiroshi Yanagisawa
  Phone number: +03-3833-1601
  Fax number: +03-3833-1578
  E-mail address: yanagisawa@nakatani-grp.co.jp
  Emergency telephone: +03-3833-1601
  Recommended use of the chemical and restrictions on use: Mold contact inspection and fitting inspection agents to processed products
  Reference Number: E-301302

2. Hazards Identification

GHS classification
Physical and chemical hazards
  Explosives: Not applicable
  Flammable gases: Not applicable
  Aerosols: Not applicable
  Oxidizing gases: Not applicable
  Gases under pressure: Not applicable
  Flammable liquids: Not applicable
  Flammable solids: Not classified
  Self-reactive substance and mixture: Not applicable
  Pyrophoric liquids: Not applicable
  Pyrophoric solids: Not classified
  Self-heating substance and mixture: Not classified
  Substance and mixtures which, in contact with water, emit flammable gases: Not applicable
  Oxidizing liquids: Not applicable
  Oxidizing solids: Not classified
  Organic peroxides: Not applicable
  Corrosive to metals: Classification not possible
Health hazards
  Acute toxicity (Oral): Not classified
Acute toxicity (Dermal) : Classification not possible
Acute toxicity (Inhalation: Gases) : Not applicable
Acute toxicity (Inhalation: Vapours) : Classification not possible
Acute toxicity (Inhalation: Dusts) : Not classified
Acute toxicity (Inhalation: Mists) : Not applicable
Skin corrosion/irritation : Classification not possible
Serious eye damage/eye irritation : Classification not possible
Respiration Sensitization : Classification not possible
Skin sensitization : Classification not possible
Germ cell mutagenicity : Classification not possible
Carcinogenicity : Classification not possible
Reproductive toxicity : Category 2
Specific target organ toxicity (Single exposure) : Classification not possible
Specific target organ toxicity (Repeated exposure) : Classification not possible
Aspiration Hazard : Classification not possible

Environmental hazards
Acute hazardous to the aquatic environment : Not classified
Chronic hazardous to the aquatic environment : Not classified
Hazardous to the ozone layer : Classification not possible

GHS label elements:
**Pictogram**

**Signal words** : Danger
**Hazard statements** : Suspected of damaging fertility or the unborn child
Causes damage to organs (lungs, systemic toxicity)

**Precautionary statements**
[Safety Measure]
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Do not eat, drink or smoke when using this product.
Wear protective gloves/eye protection/face protection.
When opening, please wear protective gloves to prevent cutting hands.
[First Aid]
If exposed or concerned: Call a doctor. Get medical advice/attention.
[Storage] Store locked up.

[Disposal] Dispose of contents/container in accordance with local/regional/national/international regulations.

Other information: Keep container tightly closed after use. Avoid direct sunlight, and store in a cool and well-ventilated place.

3. Composition/Information on Ingredients

Single chemical substance/mixture: Mixture

Information on composition and ingredients:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Chemical formula</th>
<th>Content (%)</th>
<th>CAS No.</th>
<th>Serial no. of government gazette</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>ZnO</td>
<td>35~45</td>
<td>1314-13-2</td>
<td>(1)-561</td>
</tr>
<tr>
<td>Mineral oil</td>
<td>Unspecified</td>
<td>30~40</td>
<td>non-disclosure</td>
<td></td>
</tr>
<tr>
<td>Aluminum stearate</td>
<td>C₁₈H₃₇AlO₄</td>
<td>5~15</td>
<td>7047-84-9</td>
<td></td>
</tr>
<tr>
<td>Insoluble disazo orange</td>
<td>C₃₄H₃₂N₆O₆</td>
<td>5~15</td>
<td>6505-28-8</td>
<td></td>
</tr>
<tr>
<td>Polyoxyethylene polyoxypropylene monobutyl ether</td>
<td>C₄H₁₀O (C₃H₆OC₂H₄O)x</td>
<td>3~10</td>
<td>9038-95-3</td>
<td>(7)-97</td>
</tr>
<tr>
<td>Azo lake</td>
<td>C₁₈H₁₃ClN₂O₆S Ba</td>
<td>1~2</td>
<td>7585-41-3</td>
<td>(5)-3233</td>
</tr>
</tbody>
</table>

4. First-aid Measures

If inhaled: Remove person to fresh air and keep comfortable for breathing. Blow nose and gargle.

If on skin: Wash the part adhered of this product with plenty of water and soap.

If in eyes: Rinse sufficiently with clean water, and if irritation persists, get medical advice/attention.

If swallowed: Give water or milk, and induce vomiting, and then, get medical advice/attention.

Expected important symptoms/effects, acute and delayed: Inhalation: Sore throat, headache, fever/body temperature rise, nausea, vomiting, feeling of weakness, chills, muscle pain. The symptoms may come out later. Oral ingestion: Abdominal pain, diarrhea, nausea, vomiting, most important signs and symptoms: No information.

Protection for first-aiders: Rescuers wear appropriate protective equipment depending on the situation.

Special note to physician: The symptom of metal fume fever doesn't appear until several hours elapsed.
5. Fire Fighting Measures

Suitable extinguishing media: Water and alkali salt mist, foam, carbon dioxide, dry chemicals are effective.

Fire-fighting method:
① Shut off combustible sources to the origin of a fire.
② Use dry chemicals, carbon dioxide for early fire.
③ For large scale fire, it is effective to shut the air by foam extinguishing agents.
④ Cool surrounding facilities with water spray.
⑤ Extinguish fire from upwind, and wear protective clothing without fail during fire-fighting.
⑥ Prohibit the entry of unauthorized person to the surroundings where fire occurred.

Unsuitable extinguishing media: Straight water stream.

Specific risk/hazard: In case of fire, there is a possibility that irritant or corrosive fume is generated.

Protection for fire-fighters: Wear appropriate protective equipment, such as self-contained respiratory apparatus during fire-fighting.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency measures: Workers wear suitable protective equipment (see '8. Exposure Controls and Personal Protective Equipment'), avoid contact with eyes and skin and avoid inhalation of gas. Prohibit the entry of unauthorized person.

Precautions for the environment: Be careful to not damage to the environment by discharge into rivers and the like.

Collection and neutralization: Gather spilled material, collect into sealable container and dispose it later.

Method for containment and clean-up: Stop the leak, if not dangerous.

Prevention of secondary hazards: Prevent the entry into drains, sewers, basements or confined areas.

7. Handling and Storage

Handling:

Technical measures: Take engineering measures described in '8: Exposure Controls and Personal Protective Equipment' and wear appropriate protective equipment.

Local exhaust/general ventilation: Provide local exhaust and general ventilation described in '8: Exposure Controls and Personal Protective Equipment'.

Cautions for Safety Handling:
① Do not eat, drink or smoke when using this product.
② Use only outdoors or in a well-ventilated area.
③ Do not contact, breathe and swallow this product.
④ Avoid breathe dust and fume.
⑤ Wash hands thoroughly after handling.

Avoid contact: See ‘10. Stability and Reactivity’.
Storage:
- Technical measures: Does not require special technical measures.
- Incompatible materials: See ‘10. Stability and Reactivity’.
- Storage condition: For preventing contamination by dust or moisture or the like, keep container tightly sealed after using. Avoid direct sunlight, and keep away from fire and heat sources, and store in dark place.
- Containers and packing materials: No regulation of the packaging and container, but put into sealable those are not damaged.

8. Exposure Controls and Personal Protective Equipment

<table>
<thead>
<tr>
<th>Controlled exposure level</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering controls</td>
<td>When dust and fume are generated during high heat process, provide ventilation for exhaust to prevent stagnation of the air pollutant. It is desirable that provide facilities like eye cup and safety shower for eye and body washing near the handling place.</td>
</tr>
<tr>
<td>Personal protective equipment</td>
<td></td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>Wear dust mask. Use air-supplied respirators, self-contained breathing apparatus as depending on the situation.</td>
</tr>
<tr>
<td>Hand protection</td>
<td>Wear protective gloves.</td>
</tr>
<tr>
<td>Eye protection</td>
<td>Wear protective equipment for eye and face, or both respiratory protective equipment and eye protection.</td>
</tr>
<tr>
<td>Skin and body protection</td>
<td>Wear protective clothing and protective boots.</td>
</tr>
<tr>
<td>Hygiene measures</td>
<td>Do not eat, drink or smoke when handling. Wash hands and gargles thoroughly after handling.</td>
</tr>
</tbody>
</table>

9. Physical and Chemical properties

<table>
<thead>
<tr>
<th>Physical state, form, color, etc.</th>
<th>Semisolid (Red paste)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Slightly characteristic odor.</td>
</tr>
<tr>
<td>pH:</td>
<td>No data</td>
</tr>
<tr>
<td>Melting point, freezing point</td>
<td>No data</td>
</tr>
<tr>
<td>Boiling point, initial boiling point and boiling range</td>
<td>No data</td>
</tr>
<tr>
<td>Flash point</td>
<td>141°C (Seta closed cup)</td>
</tr>
<tr>
<td>Explosive range</td>
<td>No data</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data</td>
</tr>
<tr>
<td>Vapor density(air = 1)</td>
<td>No data</td>
</tr>
<tr>
<td>Specific gravity(density)</td>
<td>1.2 (20°C)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
</tbody>
</table>
Partition coefficient (n-octanol/water) : Not applicable
Auto-ignition temperature : No data
Decomposition temperature : No data
Threshold of odor : Not applicable
Evaporation rate (Butyl acetate = 1) : No data
Flammability (solid, gas) : Not applicable
Viscosity : No data

10. Stability and Reactivity
Stability : Stable under normal temperature and pressure.
Hazardous reactivity
Conditions to avoid
Incompatible materials
Hazardous decomposition products : Currently no useful information.

11. Toxicological Information
Acute toxicity (Oral) : Oral LD$_{50} = 2500$mg/kg (Estimated value)
Skin corrosion/irritation : In skin irritation test with rabbit, because the result was ‘not irritating’, it was classified as ‘Not classified’.
Serious eye damage/eye irritation : Data on ingredient (Zinc oxide)
Respiratory or skin sensitization : Respiratory sensitization: Currently no useful information.
Germ cell mutagenicity : Currently no useful information.
Carcinogenicity : In EU/EPA, it is classified as ‘not applicable’. (Zinc oxide)
Reproductive toxicity : Data on ingredient (Zinc oxide)
Specific target organ toxicity (single exposure) : It was classified as ‘Category 1’ because may cause metal fume fever by inhalation of Zinc oxide in fine dust in product.
Specific target organ toxicity (repeated exposure): Due to insufficient data, it is 'Classification not possible'.

Aspiration hazard: No data.

12. Ecological Information

Ecotoxicity: Data on product:
- Hazardous to the aquatic environment acute hazard: Fishes (Oryzias latipes): 96hr-LC50 > 100mg/L
  Crustacean (Daphnia magna): 48hr-EC50 > 100mg/L (Immobilization)
  Algae (Pseudokirchneriella subcapitata): 72hr-EC50 > 100mg/L (Growth inhibition)

- Hazardous to the aquatic environment chronic hazard: Algae (Pseudokirchneriella subcapitata): 72hr-NOELR = 10mg/L (Growth inhibition)
  As above, it is classified as 'Not classified'.

13. Precautions for Disposal

- Residual wastes: In the disposal, follow the relevant laws and regulations, and the standards of the local government.
  Entrust disposal to industrial waste disposal contractor who have obtained a license from prefectural governor, or if the local government is performing waste disposal, entrust them disposal.
  When entrusting the disposal of waste, announce the risk and hazard to the contractor sufficiently.

- Contaminated container and packages: Recycle containers after cleaning up or dispose of properly in accordance with relevant laws and standards of the local government.
  If dispose the empty container, dispose after removing contents completely.

14. Transport Information

- International regulations: Air transport follow the regulation under IATA.
  Marine transport follow the regulation under IMDG.

- UN number: Not applicable
- UN class: Not applicable
- Proper shipping name: Not applicable
- Packing group: Not applicable

- Japan domestic regulations
  Inland transport: Not applicable.
  Sea transport: Follow the regulation of Ship Safety Law.
  Air transport: Follow the transportation methods that are defined in the Civil Aeronautics Act.

- Special safety measures: For transportation, avoid direct sunlight, and load containers
to not damage, corrosion, leak, and take prevention of cargo collapse securely.

15. Regulatory Information

<table>
<thead>
<tr>
<th>Act/Regulation</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Safety and Health Act</td>
<td>Dangerous and Harmful Substances Subject to Notify Their Names, etc.</td>
</tr>
<tr>
<td>Zinc oxide (Article 57-2, Enforcement</td>
<td></td>
</tr>
<tr>
<td>order 18-2 Appended table 9) (No.188)</td>
<td></td>
</tr>
<tr>
<td>Mineral oil (Article 57-2, Enforcement</td>
<td></td>
</tr>
<tr>
<td>order 18-2 Appended table 9) (No.168)</td>
<td></td>
</tr>
<tr>
<td>Water Pollution Control Act</td>
<td>Designated Substance</td>
</tr>
<tr>
<td>Zinc oxide (Zinc and Its Compounds)</td>
<td></td>
</tr>
<tr>
<td>Fire Service Act</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Ship Safety Act</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Marine Pollution Prevention Law</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Civil Aeronautics Act</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical Management Promotion Law (PRTR</td>
<td>Not applicable to designated Chemical Substances</td>
</tr>
<tr>
<td>Law)</td>
<td></td>
</tr>
<tr>
<td>Import Trade Control Law</td>
<td>Applicable. (Appended table 1-16, Catch-all Controls)</td>
</tr>
</tbody>
</table>

16. Other Information

Information which is outside of MSDS

<table>
<thead>
<tr>
<th>Act/Regulation</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Liability Act</td>
<td>Participation in the Domestic products and completed operations liability insurance</td>
</tr>
<tr>
<td>TSCA (Toxic Substances Control Act)</td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td>NFPA704</td>
<td>Health=1 Flammability = 1 Instability =1</td>
</tr>
</tbody>
</table>

References:

1. Food hygiene dictionary (Chuohoki publishing Co., Ltd)
2. New 110 poisoning View in picture (HOKENDOHJINSHA Inc.)
3. Japan surfactant industry association: Data Sheet practices for surfactant safety and biodegradability
5. Guideline of Material Safety Data Sheet Revised edition: Japan Chemical Industry Association
8. Ministry of Economy, Trade and Industry: Toxicity about environment
9. IATA Dangerous Goods Regulation (IATA DGR)
10. Ministry of Health, Labour and Welfare: Occupational Safety and Health Act
11. NITE GHS Classification result

Notice:

This SDS is provided to businesses about hazardous chemical products as reference information to ensure the safe handling. Businesses who handle this product, please use it under understanding
that it is necessary to take appropriate measures depending on the actual situation with the responsibility of own as refer to this SDS. Therefore, this SDS is not the guarantee of the safety.

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Revised 06 2010/11/20 Reference No. 300702
Revised 07 2011/10/01 Reference No. 300802
Revised 08 2014/09/05 Reference No. E-300902
Revised 09 2014/11/07 Reference No. E-301002
Revised 10 2016/04/28 Reference No. E-301102
Revised 11 2016/08/25 Reference No. E-301202
Revised 12 2020/10/27 Reference No. E-301302