Page: 1/4

Material Safety Data Sheet

Section 1 - Chemcial Product and Company Information

| Section 1 Offenicial Froduct and Company Information | | |
|--|---|--|
| Chemical Name | ·2-Diazo-1-naphthol-4-sulfonylchloride | |
| | ·1,2-Naphthoquinone-2-diazide-4-sulfonylchloride | |
| Chemical Formula | $C_{10}H_5CIN_2O_3S$ | |
| Company Identification | Showa Kako Corporation | |
| | 18-23 Yoshino-cho, Suita City Osaka pref., 564-0054 JAPAN | |
| Telephone Number | +81-6-6384-1501 | |
| 24-hour Emergency Telephone Number | +81-6-6384-1501 | |
| Fax Number | +81-6-6384-2287 | |

Section 2 - Hazards Information

| Section 2 - Hazards Information | |
|---------------------------------------|----------------|
| The most important hazard | Self-reactive |
| GHS Classification | |
| Physical Hazards | |
| Self-reactive substances and mixtures | Category B |
| Health Hazards | |
| Skin corrosion / irritation | Category 1 |
| Serious eye damage ∕ eye irritation□ | Category 1 |
| Environmental Hazards | Not classified |
| GHS Symbol | |

Section 3 - Composition and Information on Ingredients

| Section 5 Composition and information on ingredients | | |
|--|--|--|
| Chemical Name | ·2-Diazo-1-naphthol-4-sulfonylchloride | |
| | ·1,2-Naphthoquinone-2-diazide-4-sulfonylchloride | |
| CAS # | 36451-09-9 | |
| UN # | 3222 | |
| Percent | 98.0% min. | |

Section 4 - First Aid Measures

| Eyes | Immediately flush eyes with copious amounts of water for at least 15 minutes,occasionally lifting the upper and lower eyelids. Consult with ophthalmologist. |
|-----------|---|
| Skin | Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Consult with a physician if symptoms occur. |
| Ingestion | Immediately wash mouth with plenty of water and give 1 - 2 cupfuls of milk or water if victim is conscious and alert. Consult with a physician. |

| Inhalation | |
|------------|---|
| | Remove to fresh air, wash out nasal aperture and mouth with plenty of water. If |
| | breathing is difficult, give artificial respiration. If not breathing, give oxygen. Consult |
| | with a physician. |

Section 5 - Fire Fighting Measures

| COCCION C THO HIGHWAY | | |
|----------------------------|-------|---|
| Flash Point | | No data found |
| Autoignition | | No data found |
| Explosion Limits | Lower | No data found |
| | Upper | No data found |
| Extinguishing Media | | Water, powder, carbon dioxide, foam |
| Fire Fighting Instructions | | Avoid non-fire fighting equipped personnel to enter. Extinguish upwind from the fire wearing appropriate protective gear. |

Section 6 - Accidental Release Measures

| Spills/Leaks | Evacuate spill area. Provide adequate ventilation. Wear self-contained breathing |
|--------------|--|
| | apparatus, rubber boots and heavy rubber gloves. Sweep up, place in a bag and hold |
| | for waste disposal. Avoid raising dust. Do not contact with skin. Do not inhale. |
| | Wash spill site after material pickup is complete. |
| | |
| | |

Section 7 - Handling and Storage

| | Wear appropriate protective gear. Do not contact with eyes, skin and on clothing. Do not inhale. Handle with care. Wash mouth and hand after handling the material. |
|---|--|
| _ | Keep container tightly closed. Avoid such conditions as direct sunlight and high piling. Store in low-humid, low-temperature area. |

Section 8 - Exposure Controls, Personal Protection

| Occupi o Exposure Controls, i ersonar i rotection | | |
|---|---|--|
| Engineering Controls | Facilities storing or utilizing the material should be equipped with an eye wash facilities and a safety shower. Use adequate ventilation to keep airbone concentrations low. | |
| Exposure Limits | Not data found | |
| Personal Protective Equipment | | |
| Eyes | Safety goggles | |
| Skin | Rubber gloves | |
| Clothing | Protective clothing and rubber boots | |
| Respirators | Anti-dust mask | |

Section 9 - Physical and Chemical Properties

| Occion o Triysical and Orientical Froperices | | |
|--|-----------------------|--|
| Physical State | Powder | |
| Appearance | Yellow - orange brown | |
| Odor | None | |
| рН | No data found | |
| Boiling point | No data found | |
| Melting point | No data found | |

| Flash Point | No data found |
|----------------|--------------------|
| Autoignition | No data found |
| Explosibility | No data found |
| Vapor Pressure | No data found |
| Vapor Density | No data found |
| Solubility | Unsoluble in water |

Section 10 - Stability and Reactivity

| Section to Stability and Reactivity | | |
|--------------------------------------|--|--|
| Stability | Unstable and decompose light, to heat, causing a deterioration in quality | |
| Conditions to avoid | Direct sunlight, high temperature, high humidity and high piling | |
| Incompatibilites with Other Material | There is a possibility to migrate to severe degradation by hydrolysis with water, and the accumulation of heat of decomposition. Acids, alkalis, heavy metals to promote the decomposition. | |
| Hazardous Decomposition Products | Toxic gases of Carbon Monoxide, Nitrogen Oxides, Hydrogen chloride, and Sulfur Oxides | |
| Hazardous Polymerization | Will not occur | |

Section 11 - Toxicological Information

| Section 11 - Toxicological Information | | |
|--|-----------------|--|
| RTECS # | No data found | |
| LD50/LC50 | No data found | |
| Carcinogenicity | y No data found | |
| Mutagenicity | No data found | |
| Reproductive Effects | No data found | |
| Teratogencity | No data found | |
| Immunology | No data found | |
| Irritation May be irritating to eyes, skin or membrane | | |

Section 12 - Ecological Information

| Ecotoxicity | No data found |
|------------------------|---------------|
| Environmental Standard | No data found |

Section 13 - Disposal Consideration

| Occion to Dioposal Consideration | | |
|----------------------------------|--|--|
| | Federal (national), state or local laws and regulations will determine the proper waste disposal method. | |
| Regulations | Federal (national), state or local laws and regulations | |

Section 14 - Transport Information

| Shipping Name | Self-reactive Solid type B | |
|---------------|----------------------------|--|
| Hazard Class | 4.1 | |
| UN # | 3222 | |
| Packing Group | - | |

Section 15 - Regulatory Information

Page: 4/4

| United States | TSCA | No data found |
|---------------|----------|-----------------|
| EC | EINECS | No data found |
| Canada | WHMIS | No data found |
| Japan | PRTR Law | Not on the list |

Section 16 - Other Information

| | • | |
|--------------------|----------------|--|
| MSDS Creation Date | July 19, 2012 | |
| Revised Date | March 31, 2014 | |
| Revised No. | Revised 2nd | |
| MSDS No. | G1264 | |

This information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Showa Kako be liable for any claims, losses, or damage of any third party or for lost profits or any special, incidental, consequential or exemplary damages, howsoever arising, even if Showa Kako has been advised of the possibility of such damages.