SAFETY DATA SHEET

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

Product name	: SHINMYOTAN SP-BLUE
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-300907

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)	: Category 1 (lungs, systemic toxicity)
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 : [Prevention]
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.
[Response]
Collect spillage.
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:

Ingredient name	Chemical formula	Content (%)	CAS No.	Serial no. of government gazette
Zinc oxide	ZnO	35~45	1314-13-2	(1)-561
Mineral oil	Unspecified	30~40	non-disclosure	
Aluminum stearate	$C_{18}H_{37}AlO_4$	5~15	7047-84-9	
Polyoxyethylene polyoxypropylene monobutyl ether	$C_4H_{10}O$ $(C_3H_6OC_2H_4O)x$	3~10	9038-95-3	(7)-97
C.I Pigment Blue	$C_{32}H_{16}CuN_8$	3~10	147-14-8	(5)-3233
Azo lake	$C_{18}H_{13}ClN_2O_6SBa$	3~10	7585-41-3	

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	: Do not eat, drink or smoke when using this product. : Use only outdoors or in a well-ventilated area. : Do not contact, breathe and swallow this product. : Avoid breathe dust and fume. : 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

Controlled exposure level	: Not established.
Permissible exposure level (Exposure limit/Biological exposure indices)	: Not established. (Japan Society for Occupational Health, 2005) Not established. (ACGIH, 2004)
Engineering controls	: 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.
Personal protective equipment	
Respiratory protection	: Wear dust mask. Use air-supplied respirators, self-contained breathing apparatus as depending on the situation.
Hand protection	: Wear protective gloves.
Eye protection	: Wear protective equipment for eye and face, or both respiratory protective equipment and eye protection.
Skin and body protection	: Wear protective clothing and protective boots.
Hygiene measures	: Do not eat, drink or smoke when handling. Wash hands and gargles thoroughly after handling.

9. Physical and Chemical properties

Physical state, form, color, etc.	: Semisolid (Blue paste)
Odor	: Slightly characteristic odor.
pH:	: No data
Melting point, freezing point	: No data
Boiling point, initial boiling point and boiling range	: No data
Flash point	: 141°C (Seta closed cup)
Explosive range	: No data
Vapor pressure	: No data
Vapor density(air = 1)	: No data
Specific gravity(density)	: 1.2 (20°C)
Solubility	: Insoluble in water

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)	: Heat of combustion: 24,430 J/g (JIS M8814)
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} = 2500mg/kg (Estimated value)
Skin corrosion/irritation	: In skin irritation test with rabbit, because the result was ‘not irritating’, it was classified as ‘Not classified’. Not corrosive to the skin.
Serious eye damage/eye irritation	: Data on ingredient (Zinc oxide) In the test which applied substance to three rabbits' conjunctival sac (OECD TG 405), the corneal opacity was not observed. The iritis was 'score 1' to just one animal only in 1-hour application. Conjunctival redness was score 1~2 to all cases, and it was fully recovered in 72 hours. In all cases, chemosis (in all cases, the secretion were 'score 1' only in after 1-hour application.) was 'score 2' only in after 1-hour application (EU-RAR (2004)). According to the above results, it is classified as ‘Not classified’.
Respiratory or skin sensitization	: Respiratory sensitization: Currently no useful information. Skin 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) In the dietary administration until 15 days of pregnancy from 21 days before mating, there was reported the absorption of all fetuses at a concentration of 0.4%. In addition, in the dietary administration until 14 days from 0 day of pregnancy, there was reported the occurrence of stillbirth fetuses at concentration of 2000ppm or more. It was classified as 'Category 2' because the expression of the general toxicity of dams have not been deny in the dose of above.
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 subcaptitata) :72hr-ErC50 > 100mg/L(Growth inhibition) As above, it is classified as 'Not classified'.
Hazardous to the aquatic environment chronic hazard	: Data on product Algae (Pseudokirchneriella subcaptitata) :72hr-NOELR$_r$ = 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 the 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

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

16. Other Information

Information which is outside of MSDS

Product Liability Act	: Participation in the Domestic products and completed operations liability insurance
TSCA (Toxic Substances Control Act)	: All ingredients are listed.
NFPA704	: Health=1 Flammability = 1 Instability =1

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
④ EC Annex I of Directive (67/548/EEC): Dangerous substance list
⑤ Guideline of Material Safety Data Sheet Revised edition: Japan Chemical Industry Association
⑥ Japan society for occupational health : Recommendation of occupational exposure limit (2005)
⑦ Working environment assessment standard (2005, April 1 Ministry of Health, Labour and Welfare)
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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