MATERIAL SAFETY DATA SHEET

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SDS No. SKS-MR-015

Product name: Sodium dispersion 30

○ GHS classification

This substance releases flammable gas on contact with water	Category 1
Skin corrosion	Category 1B
Serious eye damage/eye irritation	Category 1
Aspiration hazard	Category 1

○ GHS label Pictograms

○ Signal words: Danger

○ Hazard statements: Generates flammable/combustible gases which may ignite spontaneously on contact with water.
Severe skin burns, eye damage.
May be fatal if swallowed and enters airways.

○ Summary of hazards and toxicity

Name of category: Flammable liquid and water-reactive substance

Hazard: Under the Fire Service Law, metallic sodium is a dangerous substance classified as Class 3 (spontaneous-ignitable substance and water-reactive substance), and mineral oil is a dangerous substance classified as Class 4 Class 3 petroleum (flammable liquid). This product is a mixture of both substances, and generates flammable gas (hydrogen) upon contact with water.

Toxicity: Swallowing, inhaling, absorption from skin or mucous membrane, etc., of this product may harm health. If on skin or in eye, metallic sodium in the ingredients reacts with water to cause burns and alkali burns due to the heat of reaction with water. Inhalation irritates airways, causes inflammation, and causes damage to lung. Ingestion leads to injury in the esophagus, mucous membrane.

Environmental influence: None currently known.

○ Composition/Information on Ingredients

Single chemical or mixture	Mixture (Dispersed in mineral oil as granular sodium)	
Chemical name	Unidentifiable (metallic sodium dispersion)	
Substances and contents	Sodium 26%	Mineral oil 74%
Chemical formula:	Na	Unidentifiable
Reference No. in Gazetted List in Japan	Classification not possible	Consists of existing chemical substances, but cannot be disclosed due to trade secrets.
CAS No.	7440-23-5	Cannot be disclosed due to trade secrets
UN Classification	Class 4.3 (flammable substances, substances which, in contact with water, emit flammable gases)	Not applicable to hazardous material
UN Number	1428	Not applicable to hazardous material

○ First aid measures

Eye contact: Wipe off this product, and wash immediately in clean running water thoroughly. Get medical diagnosis.
When contact lenses are used, remove if not adhered, and wash them.

Skin contact: Wipe off this product, and immediately rinse with clean running water. Get medical diagnosis.

Inhalation: Remove person to fresh air. Get medical diagnosis.

Ingestion: Rinse mouth immediately and drink plenty of water. If inducing vomiting, wear protection gloves. Get medical diagnosis.

* The handler should wear protective equipment (heat-resistant /alkali-resistant protective clothing, protective gloves, protective shoes, protective goggles)

○ Firefighting measures

Firefighting procedures: Since flammable and corrosive gases may generate by combustion or upon contact with water, fight fire from upwind position, and wear fireproof clothing, respirator, etc. Use the designated extinguishing agents. Slowly spray fire-extinguishing agents in a manner of covering the combustion.
If sodium remaining even after fire fighting comes into contact with air or water again, fire may start again. Allow enough time to cool and avoid contact with water.

Fire-extinguishing agents: Use a powder extinguishing agent for oil, electric fire (BC powder) or powder extinguishing agent for metal fire.
Sodium hydrogen carbonate (dry), sodium carbonate (dry) powders are effective.
Dry common salt and sand are less effective but available for extinguishing.
Do not use a powder extinguishing agent (ABC powder) using water, alcohols, foam extinguishing agents, carbon dioxide, halogen extinguishing agents or phosphates.
Keep away from water as it reacts with sodium to generate a flammable gas (hydrogen).

Protectors: Wear heat-resistant/alkali-resistant protective clothing, protective gloves, and eye protection (goggles). Since white smoke generated upon contact between combustion gas and water is highly irritating, wear a simple respirator or a particulate respirator/gas mask.

○ Accidental release measures

Do not touch the spilled product directly. Remove all ignition sources near the spillage, and prepare fire-fighting equipment just in case of ignition. Since this product has reactivity with water, prevent water from entering into the container or the spilled product.
Spray a specified recovery material over the spillage (dry sand, etc.), adsorb with recovery material, and collect in a metal container. Take measures to prevent expansion of spillage into drain sewage, general rivers, and sea areas. During the recovery work, wear heat-resistant and alkali-resistant protective clothing, protective gloves and eye protection (goggles) and simple respirator or particulate respirator/gas mask. Fight fire from upwind.
Entrust disposal of the collected objects to an industrial waste disposal contractor according to the “Disposal considerations” section.
Evacuate peoples around the spillage area. When inhabitants and transportation in the surrounding area may be affected, report to the relevant organizations and the emergency contact of Kobelco Eco-Solutions Co., Ltd.

○ Handling and storage

Handling: In handling this product, make sure to conduct training for handling in advance.
Handle as applicable to Class 3 (water-reactive substance) under the Fire Service Law.
Provide appropriate ventilation equipment near the workplace.
Use of open flames in the area is prohibited, and all appliances should be explosion-proof.
Ground for the purpose of preventing sparks due to static electricity.
Prepare appropriate extinguishing agents.

Storage: Store in an inert atmosphere (nitrogen gas, etc.) in an airtight metal container.
Avoid the adhesion of water with the container.
Stir constantly during storage to avoid sedimentation of sodium.
Place the storage container in a metal container if the product is stored in a polyethylene bottle.
If the product causes sedimentation during storage, check that the lid of the polyethylene bottle is securely closed and shake the polyethylene bottle to mix.

○ Exposure controls

Controlled exposure level: No description in working environment standards (S.63 (1988) Ministerial Notification No. 79 of the Ministry of Labor)

Permissible exposure level: Value recommended by Japan Society for Occupational Health[1)]
Sodium: No description
Mineral oil: 3 mg/m^3 (As mineral oil mist)
Value recommended by ACGIH[2)]
Sodium: No description
Mineral oil: TWA 5 mg/m^3 (As mineral oil mist)

Facility measures: Do not allow water in the workplace.
Provide ventilation equipment in the workplace.

Protective equipment: Simple respirator, heat-resistant/alkali-resistant protective clothing and protective gloves, eye protection (goggles), boots

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○ Physical and chemical properties

Appearance, etc.	Gray liquid
Density	0.85–0.90
Boiling point	880°C (Sodium), 250°C or higher (Mineral oil)
Vapor pressure	1.9 Pa (Sodium, 300°C)
Melting point	97.7°C (Sodium)

○ Hazard information (Stability and reactivity)

Flash point: 166°C or higher

Ignition point:	No data
Stability:	This product is particles of metallic sodium coated with chemically stable mineral oil, and is stable in the air. (No pyrophoricity)
Reactivity:	No pyrophoricity. When sodium in the mineral oil reacts with water, heat is generated by the heat of reaction, which may sometimes lead to firing. In addition, hydrogen generated during the reaction may be ignited. The reaction with water produces sodium hydroxide (strong alkali).

○ Toxicological information

This product is fine sodium particles coated with mineral oil, and its corrosiveness on skin is weaker than that of caustic soda. If it gets in eyes or on the sweaty skin, the reaction heat with water causes burns and alkali burns, etc.

Metallic sodium:	Acute toxicity (intraabdominal)	LD_{50} = 4 g/kg (mouse)
Mineral oil:	Acute toxicity (oral)	$LD_{50} \geq 5$ g/kg (rat, estimated value)

○ Ecological information

No currently available data.

○ Disposal considerations

- When disposed of, clearly state the content and entrust to an industrial waste disposal contractor.
- When alkaline wastewater is produced, do not release to sewage or general river, but entrust to an industrial waste disposal contractor.

○ Transport information

- Refer to the description in the paragraph “Precautions on handling and storage”.
- In transportation, confirm that the container has no leakage, etc., load the container to prevent tipping, falling, damage, etc., and make sure to prevent collapsing.
- Do not load with the dangerous goods in Classes 1, 2, 5 and 6 prescribed under the Fire Service Law.
- UN classification: Class 4.3 (flammable substances, substances which, in contact with water, emit flammable gases)

○ Regulatory information

Industrial Safety and Health Law:	Metallic sodium: pyrophoric substance
Fire Service Law:	Hazardous materials Class 4, Petroleum No. 3 (specified amount 2,000 Lt)
Ship Safety Law:	Flammable substance
Aviation Law:	Other flammable substances
Poisonous and Deleterious Substances Control Law:	Classification not possible (metallic sodium is a deleterious substance)
UN Number:	1391 (Alkali metal suspension or alkali earth metal suspension)

	Class grade 4.3 Water reaction flammability substance
Water Pollution Prevention Law:	Oil discharge restriction (5 mg/Lt allowable concentration) Detected as n-hexane extract.
Law Relating to the Prevention of Marine Pollution and Maritime Disaster:	
	Oil discharge restriction
Sewerage Law:	Mineral oils discharge restriction

○ Other information

Cited documents

1) Recommendations for allowable concentrations (1996) in Journal of Occupational Health by Japan Society for Occupational Health
2) Threshold limit values for chemical substances and physical agents and biological exposure indices, ACGIH

Handling of description

- Since the evaluation of hazards and toxicity is not necessarily sufficient, please be very careful in handling.
- This material safety data sheet is necessary for using our product appropriately. It is a summary of information to be noted, and is intended for normal handling.
- Please handle this product properly with reference to this material safety data sheet, and under the responsibility of the user.
- The contents described herein are the information available at the current point of time and the knowledge owned by the manufacturer, but these data and evaluation are not guaranteed in any way. They may be revised based on the revision of laws and regulations and new findings.

For inquiries about the description, contact:

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