SAFETY DATA SHEET

1. Product and Company Identification

Product Name:	**Magna Spray FY-8100 (Spray-type fluorescent magnetic powder for magnetic-particle testing)**		
Company Name:	Denshijiki Industry Co., Ltd.		
Address:	5-6-20 Ukima, Kita-Ku, Tokyo		
Section in Charge:	Development department		
Telephone:	+81-3-5970-8681	FAX:	+81-3-5970-8680
Emergency Telephone:	Same as the section in charge		
Date of Creation:	December 3, 2019	Date of Revision:	January 21, 2021
Reference Number:	SDS15110-02e		
Product Code:	15110		

Recommended Uses and Restrictions on Use: Magnetic particle testing (Spray)

2. Hazards Identification

GHS Classification

Physical Hazards	Aerosols	Category 1
Health Hazards	Acute toxicity (oral)	Classification not possible
	Acute toxicity (dermal)	Classification not possible
	Acute toxicity (inhalation: vapors/dust/mist)	Classification not possible
	Skin corrosion/irritation	Classification not possible
	Serious eye damage/eye irritation	Classification not possible
	Respiratory Sensitization	Classification not possible
	Skin sensitization	Classification not possible
	Germ cell mutagenicity	Classification not possible
	Carcinogenicity	Classification not possible
	Reproductive toxicity	Classification not possible
	Reproductive toxicity/effects on or via lactation	Classification not possible
	Specific target organ toxicity (single exposure)	Category 3 (Anesthetic effect)
	Specific target organ toxicity (repeated exposure)	Classification not possible
	Aspiration hazard	Classification not possible
Environmental Hazards	Hazardous to the aquatic environment (acute)	Classification not possible
	Hazardous to the aquatic environment (chronic)	Classification not possible
	Hazardous to the ozone layer	Classification not possible

GHS Label Elements

Pictograms:

Signal Word: Danger

Hazard Statement: Extremely flammable aerosol

Pressurized container: may burst if heated

May cause drowsiness or dizziness

Precautionary Statement:

Prevention: Keep away from ignition sources such as heat, sparks, open flames and hot objects. No smoking.

Do not spray on an open flame or other ignition source.

Do not pierce or burn, even after use.

Avoid breathing gas, mist, vapors, spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/eye protection/face protection/protective clothing.

Response: IF SWALLOWED: Do not induce vomiting.

IF ON SKIN: Wash with plenty of water and soap.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER/doctor, if you feel unwell.

Storage: Store in a well-ventilated place Keep container tightly closed.

Store locked up.

Protect from sunlight. Do not expose to temperatures exceeding 40ºC/104ºF.

Disposal: Dispose of contents/container at an approved waste disposal plant in accordance with local/regional/national regulations.

Other hazards not categorized by GHS classification

Contact with liquefied gas may cause frostbite

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3. Composition/Information on Ingredients

Substance/Mixture: Mixture

Chemical Name or Common Name	Content (%)	CAS No.
Isoparaffin (Aliphatic hydrocarbon)	65–75	68551-20-2
Iron oxide Iron Organic fluorescent pigment Melamine resin	< 0.5	1317-61-9 7439-89-6 Registered 9003-08-1
Sorbitan Monooleate	< 0.5	1338-43-8
LPG (Liquefied Petroleum Gas) Propane n-butane, i-butane	 10–30 5–15	 74-98-6 106-97-8,75-28-5

4. First Aid Measures

IF INHALED:	:	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor, if you feel unwell.
IF ON SKIN:	:	Take off contaminated clothing immediately and wash skin with plenty of water and soap. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
IF IN EYES:	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse for at least 15 minutes, and then get medical attention.
IF SWALLOWED:	:	Call a POISON CENTER/doctor, if you feel unwell. If the product remains in the mouth, rinse thoroughly. Do NOT induce vomiting.

5. Firefighting Measures

Extinguishing Media	:	Small fire: Carbon dioxide, powder extinguisher, water sprinkling and foam extinguisher. Large fire: Water sprinkling, sprayed water and foam extinguisher
Inappropriate Extinguishing Media	:	Straight stream of water
Specific Hazards	:	May explode if aerosol container is at the scene of a fire. Extremely flammable and easily ignited by heat, spark and flame. May cause vapor-explosion indoors, outdoors or in a sewage trench. May generate irritant, poisonous, or corrosive gas in a fire.
Special Firefighting Procedures	:	Extremely low flash point: Use water if other extinguishing media are not effective Remove containers from the fire area, if it can be done safely. If not, spray containers and the surrounding area with water to keep them cool. Conduct firefighting activities from the most distant place that allows it to be done effectively using an unmanned hose holder or a nozzle with a monitor. Keep cooling containers with plenty of water even after the fire is extinguished.
Protection of Firefighters	:	Wear appropriate protective equipment to avoid inhalation of toxic gases. Fight a fire from upwind.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	:	Operators must wear proper protective gear (refer to 8. Exposure Controls/Personal Protection) and avoid contact with the eyes and skin, and gas inhalation. When leaking (spraying), handle from upwind. Keep the leaking spot facing up. Let the gas spray out completely and then perform the subsequent procedures. Quickly remove nearby ignition sources, high-temperature objects and flammables. Evacuate anyone who is downwind and keep everyone out except authorized persons Ventilate before entering the restricted area.
Environmental Precautions	:	Avoid draining to drainage trench, sewage trench, basement or a closed space. Be careful not to discharge into rivers or anywhere else that would affect the environment.

Method and Materials for Containment and Cleaning Up	:	Use tools whose materials do not generate sparks upon impact or due to static electricity. For small leaks, collect the material by absorbing the released material with soil, sand, or non-combustible material. For large leaks, put sand around the leakage to keep it from flowing out. Process contaminated items and waste according to relevant regulations.
Measures to Prevent Secondary Accidents	:	Inform relevant organizations immediately to prevent further accidents and expansion. Remove nearby potential ignition sources immediately and prepare fire extinguishing media. Do not walk on the released material unnecessarily.

7. Handling and Storage

Handling

Technical Measures	:	Amounts larger than the designated amount must be handled in a factory, a storage facility, or a laboratory in compliance with the standards required by the relevant regulations. Connect the equipment to ground and use explosion-proof electric appliances as an anti-static measure. Do not use high-temperature objects, sparks and fire nearby. - No smoking. Take engineering measures and use protective equipment as described in Section 8. Exposure Controls/Personal Protection. Provide local and general ventilation as described in Section 8. Exposure Controls/Personal Protection.
Precautions for Safe Handling	:	Do not use things that generate fire, sparks and arcs or high-temperature objects. Do not spray at an open flame or high-temperature incandescent objects. Use this substance with one's back facing upwind to prevent it from being blown back on the user. The container may rupture if stored in a high-temperature place. Avoid contact, inhalation, or ingestion. Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with combustibles and oxidizing agents.

Storage

Proper Storage Conditions	:	Store in a cool, well-ventilated place, away from direct sunlight. Keep containers sealed. May leak or spray out if containers get rusty. Avoid storing it in a humid spot. Store away from fire and heat sources. Do not store where the temperature exceeds 40°C. Use explosion-proof grounded electric appliances if using them in the storage area. Store away from combustibles and oxidizing agents. Store locked up.
Safe Packaging Materials	:	Use containers regulated by the High Pressure Gas Safety Act and other regulations.

8. Exposure Controls/Personal Protection

Control Levels	:	Total dust 3.0 mg/m^3

Permissible Exposure Levels

Japan Society for Occupational Health (2018version)	:	Iron oxide...inhalant dust 1 mg/m^3, Total dust 4 mg/m^3 Butane...500 ppm, 1,200 mg/m^3
ACGIH (2008 Version)	:	TLV-TWA Iron oxide...5 mg, Fe/m^3, propane...1,000 ppm, butane...1,000 ppm
Engineering Measures	:	In an indoor, inadequately ventilated workplace, provide local or general ventilation equipment. Install a face-washer and safety shower. Do not put high-temperature and ignition sources near where this material is handled.
Protective Equipment		Wear the following protective equipment as needed:
Respiratory System Protection	:	Organic gas masks, air-supplied respirators, breathing equipment, etc.
Hand Protection	:	Protective gloves (solvent resistant, impermeable)
Eye Protection	:	Eye protection, face protection.
Skin and Body Protection	:	Oil-resistant (impermeable, anti-static) apron (anti-static) protective wear, electrically conductive boots, etc.

9. Physical and Chemical Properties

	Contained liquid	Spraying agent (LPG)
Physical state	Liquid	Under atmospheric pressure: gas, in pressurized container: liquid
Color	Colorless and transparent	Colorless and transparent
Odor	Almost none	odorless
Melting point/ freezing point	-60°C or less (pour point)	-187.7–-138.4°C
Boiling point or initial boiling point and boiling range	210–250°C	-42.1–-0.5°C
Flammability	Flammable	Flammable
Lower and upper explosion limit / flammability limit	0.6–6.5%	1.8–9.5vol%
Flash point	90°C or higher (open cup)	-104.4–-73.8°C
Auto-ignition temperature	approx. 350°C	405–550°C
Decomposition temperature	No data available	No data available
pH	No data available	No data available
Kinematic viscosity	No data available	No data available
Solubility	Water insoluble, poorly soluble in alcohol Readily soluble in toluene and hexane	Slightly soluble in water
Partition coefficient n-octanol/water (log value)	No data available	No data available
Vapor pressure	No data available	0.278–1.275 MPa (40°C)
Density and/or	0.79 (15/4°C)	0.539 (20°C)

relative density		
Relative vapor density	No data available	1.895–2.538 kg/m^3 (1 MPa 15.6°C)
Particle characteristics	10μm（5-16μm）	No data available

10. Stability and Reactivity

Chemical Reactivity and Stability	:	May rupture at 40°C or higher Internal pressure at ambient temperature: approx. 0.35 MPa May catch fire and explode by electrostatic discharge
Possibility of Hazardous Reactions	:	May rupture by heat and impact. A flammable liquefied gas and readily forms an explosive gas when mixed with air.
Conditions to Avoid	:	Storage in hot, humid spots and usage near fire.
Incompatible Materials	:	No data available
Hazardous Decomposition Products	:	No data available

11. Toxicological Information

Acute Toxicity (oral)	:	$LD_{50} \geq$ 20 g/kg (mouse): isoparaffin
Acute toxicity (dermal)	:	No data available
Acute Toxicity (inhalation)	:	gas... LC_{50} > 55,000 ppm/2 h (guinea pig): propane LC_{50} > 38,890 ppm/4 h (guinea pig): propane LC_{50} > 277,374 ppm/4 h (rat): n-butane
Skin Corrosion and Skin Irritation	:	No data available
Serious Eye Damage or Eye Irritation	:	No data available
Respiratory Sensitization or Skin Sensitization	:	Respiratory sensitization: No data available Skin sensitization: No data available
Germ Cell Mutagenicity	:	No data available
Carcinogenicity	:	No data available
Reproductive Toxicity	:	No data available
Specific Target Organ Toxicity, Single Exposure	:	Description in ACGIH: propane "Anesthetic to humans" Description in ACGIH and Japan Society for Occupational Health recommendation: n-butane "Anesthetic or central nervous system depressant in humans by high-concentration inhalation"
Specific Target Organ Toxicity, Repeated Exposure	:	No data available
Aspiration Hazard	:	No data available

12. Ecological Information

Ecotoxicity	:	No data available

Persistency/Degradability	:	No data available
Bioaccumulative Potential	:	No data available
Mobility in Soil	:	No data available
Hazardous to the Ozone Layer	:	No data available

13. Disposal Considerations

Dispose of after complete degassing.

Have contents/container disposed of by an industrial waste disposal contractor licensed by the prefectural governor.

Dispose of or have waste generated from effluent treatment or incineration disposed of by a waste disposal contractor in accordance with the Waste Management and Public Cleansing Act and other related laws.

14. Transport information

UN Hazard Class	:	2.1
UN No.	:	1950

Follow other related laws and regulations.

15. Regulatory Information

Comply with the applicable laws and regulations regarding this product in each country/region.

16. Other Information

This Safety Data Sheet was prepared in accordance with JIS Z 7253:2019 to provide users of this product with reference information to ensure safe handling. Users are responsible for taking appropriate measures for individual handling conditions with reference to this SDS.

This SDS does not represent any guarantee of safety.

Major references

Safety Data Sheets (SDS) provided by raw material manufacturers

Japanese Industrial Standards JIS Z 7253:2019 “Hazard communication of chemicals based on GHS”

NITE Chemical Risk Information Platform (CHRIP)