

SAFETY DATA SHEET

SDS: A5102-0000_E001

Date Prepared: 2019/05/15

Date Revised: 2023/01/10

Product Name: **METHYL DI GLYCOL**

1. Identification of the substance/mixture and of the company/undertaking

Product name:	METHYL DI GLYCOL
Identification of the supplier:	Nippon Nyukazai Co., Ltd.
Address:	No.4-1.Nihonbashi Kobuna-cho, Chuo-ku, Tokyo 103-0024, Japan
Charge section:	Business Operation Department (TEL:+81-3-5651-5640,FAX:+81-3-5651-5646)
Emergency telephone number:	Business Operation Department (TEL:+81-3-5651-5640,FAX:+81-3-5651-5646)
Recommend use:	diluent , Detergent , deposition aid , intermediate raw materials
Restrictions on use:	Seek expert judgment when using for purposes other than those recommended.

2. Hazards identification

Hazard category

Toxic to reproduction	Category 1B
Specific target organ systemic toxicity following single exposure	Category 3

Label elements

Hazard pictograms:



Signal word: **Danger**

Hazard statements: **H360** May damage fertility or the unborn child.
H335+H336 May cause respiratory irritation, or May cause drowsiness or dizziness.

Precautionary statements:

Prevention	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response	P312 Call a POISON CENTRE/doctor/healthcare professionals under the supervision of a doctor if you feel unwell. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313 IF exposed or concerned: Get medical advice/attention.
Storage	P405 Store locked up. P403+P233 Store in a well ventilated place. Keep container tightly closed.

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Disposal P501 Dispose of contents/container in accordance with
local/regional/national/international regulation.

3. Composition/information on ingredients

3.1. Substances

Ingredients and Concentration

Ingredient Name	Concentration wt.%	CAS RN®	Existing and New Chemical Substances (JAPAN)	Industrial Safety and Health Law Substances (JAPAN)	Industrial Safety and Health Law (JAPAN)	Pollutant Release Transfer Register Law (JAPAN)	Poisonous and Deleterious Substances Control Act (JAPAN)
			Gazette notice reference number	Gazette notice reference number	Notifiable Substances	Specified Substances	Poisonous and Deleterious Substances
Diethylene glycol monomethyl ether	99-100	111-77-3	2-422, 2- 2979, 7-97	Public	Not applicable	Not applicable	Not applicable

3.2. Mixtures

Not Applicable

4. First aid measures

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is stopped, lie on your back and perform cardiopulmonary respiration. Get medical advice/attention.
Skin contact:	Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. If skin irritation or a rash occurs: Get medical advice/attention.
Eye contact:	Immediately flush eye with plenty of clean water for at least 15 minutes. (If easy to do, remove contact lenses, if worn.) Get medical attention immediately.
Ingestion:	After having swallowed it, Drink a large quantity of water when consciousness becomes clear and receive treatment for the doctor immediately. A mouth must not give a person without the consciousness a thing.
Protection for first aid person:	The rescuer wears a tool for appropriate protection depending on the situation.

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5. Firefighting measures

Suitable extinguishing media:	Use water spray(fog), foam, dry chemical or CO2.
Extinguishing media to avoid:	Straight stream water.
Specific hazards arising from the chemical:	At the time of fire, hazardous gases (carbon monoxide and others) can be generated.
Fire fighting:	Keep upwind of fire. Eliminate all ignition sources if safe to do so. In case of fire in the surroundings, move the content/container to the safety place. If it is not possible to move, cool the content/container with water spray.
Special protective equipment and precautions for fire fighters:	Gloves, protection glasses, wear fire, flame resistant, retardant clothing, air respiratory organs wear a tool for appropriate protection.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Promptly remove possible ignition sources from the vicinity. Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Environmental precautions:	To environment (area of the sea, the soil) must not release it.
Methods and materials for containment and cleaning up:	Absorb this product with inactive materials (example: dry sand, earth) and recover it into a waste material container. In the case of large amount, stop leakage with earth/sand to begin with, and, then, recover it. In the case of a small quantity, I adsorb it in the earth and sand, a waste and collect it in empty container which I can seal up after having removed it.

7. Handling and storage

Handling	
Technical measures:	During handling, be sure to wear proper protective equipment (refer to the section 8). This product can be charged with static electricity. Take countermeasures for static electricity removal (grounding, others). Wear antistatic clothes and antistatic shoes to prevent human body electrification. Use explosion-proof electrical/ventilating/lighting equipment.
Ventilation requirements:	Use the ventilation equipment described in Section 8.
Precautions for safe handling:	Not especially.

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Storage

Storage conditions: Store the containers avoiding direct sunlight. Store in less than 40°C in a well-ventilated room.

Safety adequate container materials: Use the container specified by the Fire Service ACT and the United Nations Transport Regulations.

8. Exposure controls/personal protection

Appropriate engineering controls: Use local ventilation equipment.
Install eye and body washing facilities near the handling place.
Display the position of equipment clearly.

Control parameters

Ingredient Name	Industrial Safety and Health Law (JAPAN)	Japan Society for Occupational Health	ACGIH-TLV	
	Administrative Control Levels	Occupational Exposure Limits	TWA	STEL
Diethylene glycol monomethyl ether	Not established	Not established	Not established	Not established

Personal protective equipment

Respiratory protection: Use a gas mask for organic gases, air-supplied respirator, self-contained compressed air breathing apparatus on the situation.

Hand protection: Organic solvent impermeable protective gloves (Antistatic ones are desirable.)

Eye/face protection: Protective glasses, goggle, protective face shield.

Skin/body protection: Wear long-sleeved working clothes and protective shoes.(Antistatic ones are desirable.)
Use an oiliness apron-resistant, boots depending on the situation.

Hygiene measures: Wash with soap and water after handling.

9. Physical and chemical properties

Product

Form: Liquid (20°C)

Color: Colorless transparent

Odor: Faint Odor

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Melting point/freezing point:	< -70(°C)
Initial boiling point and boiling range:	194(°C)
Flammability (solid, gas):	No data
Upper/lower flammability or explosive limits:	No data
Flash point:	105(°C)
Auto-ignition temperature:	238(°C)
Decomposition temperature:	No data
pH:	5-7 (50%aq.)
Kinematic viscosity:	No data
Solubility:	water : Soluble.
Partition coefficient: n-octanol/water:	No data
Vapour pressure:	13.3(Pa)(20°C)
Specific Gravity:	1.021(20°C)
Vapour density:	No data
Particle characteristics:	No data

10. Stability and reactivity

Chemical stability:	Stable under normal temperatures and pressures.
Possibility of hazardous reactions:	It may react with the oxidizing agent and generate heat.
Conditions to avoid:	Avoid heat, flames, sparks and ignition sources.
Incompatible materials:	Acid, Oxidizing agents.
Hazardous decomposition products:	No data available

11. Toxicological information

Product

Acute toxicity (oral):	No Classification
Acute toxicity (dermal):	No Classification
Acute toxicity (inhalation):	Exempt classification (Gas) Classification not possible (Vapour) No Classification (Dust/Mist)
Skin corrosion/irritation:	No Classification
Serious eye damage/irritation:	No Classification

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Respiratory sensitization:	Classification not possible
Skin sensitization:	No Classification
Mutagenicity:	Classification not possible
Carcinogenicity:	Classification not possible
Reproductive toxicity:	Category 1B
Target organ effect/Single exposure:	Category 3(anesthetic action)
Target organ effect/Multi exposure:	Classification not possible
Respiratory toxic:	Classification not possible

Ingredient

Diethylene glycol monomethyl ether

Acute toxicity (oral):	No Classification LD50: 5500-12400 mg/kg[rat]
Acute toxicity (dermal):	No Classification LD50: 8980-9400 mg/kg[rabbit]
Acute toxicity (inhalation):	Exempt classification (Gas) Classification not possible (Vapour) No Classification (Dust/Mist) Effect on animals : (Vapour) There is a report that no mortality was found in rats after a 6-hour exposure to an atmosphere saturated with the substance (EU-RAR vol. 1 (1999)). Its saturated concentration is estimated to be about 260 ppm (1.3 mg/L) at ordinary temperatures. Since this concentration is too low as administration doses to be used in experiments, classification is not possible. (Dust/Mist) Based on the information that 1-hour exposure of this substance did not cause a death in rats, and its LC50 is > 200 mg/L (4-hour conversion: > 100 mg/L) (EU-RAR vol. 1 (1999)), the substance was classified into the "Not classified" category. Regarding study conditions, since the LD50 value is much higher than its estimated saturated vapour concentration (1.3 mg/L), the study was conducted presumably in a mist state.

Skin corrosion/irritation:	No Classification None [rabbit] Effect on person : In a 48-hour closed patch test, a solution of test substance in 25% petrolatum produced no irritation in 25 human subjects. Effect on animals : In skin irritation tests using rabbits, no irritation was seen at all observation periods up to 3 days after application (EU-RAR vol. 1 (1999)). Based on these negative results, the substance was classified into the "Not classified" category.
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Serious eye damage/irritation:	<p>No Classification None [rabbit] Effect on animals : In a study in which 0.1 ml of undiluted test substance was applied to the eyes of rabbits (OECD TG 405), the primary irritation score was 0.53, concluding that the substance is not irritating to the eyes (EU-RAR vol. 1 (1999)). Based on this conclusion, the substance was classified into the "Not classified" category.</p>
Respiratory sensitization:	<p>Classification not possible Effect on person : No data available.</p>
Skin sensitization:	<p>No Classification Effect on person : In a maximization test with 25 human volunteers, no sensitization was observed (EU-RAR vol. 1 (1999)). Effect on animals : In guinea pig maximization tests (OECD TG 406), 0 out of 10 treated animals showed a positive skin response after the challenge (EU-RAR vol. 1 (1999)). Based on these negative results, the substance was classified into the "Not classified" category.</p>
Mutagenicity:	<p>Classification not possible</p>
Carcinogenicity:	<p>Classification is not possible due to lack of in vivo test Classification not possible No data available.</p>
Reproductive toxicity:	<p>Category 1B In oral administration tests conducted during the organogenetic period using pregnant rats, a decreased body weight gain in maternal animals, as well as reduced litter size, increased embryo resorption, and increased incidences of malformations were observed at the highest dose (1800 mg/kg/day or 2165 mg/kg day) (EU-RAR vol. 1 (1999)). Observed malformations include external malformations like anasarca, anury, and subcutaneous hematomas, as well as visceral malformations in the cardiovascular system such as double aortic arch, right aortic arch, and ventricular septal defect (EU-RAR vol. 1 (1999)). With regard to visceral malformations, they increased in a dose-dependent manner, and their increase was clearly seen even at low administration doses (600 mg/kg/day or 700 mg/kg/day) that did not induce general toxicity in maternal animals (EU-RAR vol. 1 (1999), HSDB (2007)). Based on these results, the substance was classified into Category 1B.</p>

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Target organ effect/Single exposure:	<p>Category 3(anesthetic action)</p> <p>As symptoms noted in treated animals before their death as a result of oral administration, loss of balance and giddiness were seen in rats, while lethargy was observed in mice. In rabbits that received dermal administration, giddiness, unstable gait, and prostration were recorded. In rats that underwent inhalation exposure, narcosis and torpor were observed without any dead subjects. Based on these results, the substance was classified into Category 3 (narcotic effects).</p>
Target organ effect/Multi exposure:	<p>Classification not possible</p> <p>In a 20-day repeated oral administration test using rats, a decrease in liver weight, testis weight, and body weight; and histological changes in the thymus were detected at 2000 mg/kg/day; and the NOAEL was reported to be 500 mg/kg/day (90-day correction: approx. 111 mg/kg/day) (EU-RAR vol. 1 (1999)). In a 6-week oral administration test using rats, a decrease in liver weight and kidney weight; and particularly notable testis atrophy, degeneration and reduction of spermatozoa in the epididymus were detected at 3600 mg/kg/day; and the NOAEL was reported to be 900 mg/kg/day (90-day correction: approx. 415 mg/kg/day) (EU-RAR vol. 1 (1999)). In an inhalation exposure test using rats that received 1.016 mg/L/6h for 90 days, no effects of exposure were observed with respect to any testing items including those in histopathological examinations, and the NOAEL was reported to be \geq 1.016 mg/L/6h (EU-RAR vol. 1 (1999)). All of these three repeated exposure tests with rats found that the NOAEL is above the upper limit of guidance value range, indicating that the substance represents the "Not classified" category (oral and inhalation). However, since information is insufficient for dermal route tests, the substance was classified into the "Classification not possible" category.</p>
Respiratory toxic:	<p>Classification not possible</p> <p>Effect on person : No data available.</p>

12. Ecological information

Product

Ecotoxicity	
Acute toxicity:	No Classification
Chronic toxicity:	No Classification
Persistence and degradability :	No information.
Bioaccumulative potential :	No information.

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Mobility in soil:	No information.
Hazardous to the ozone layer:	Classification not possible
Other impact :	No information.

Ingredient

Diethylene glycol monomethyl ether

Ecotoxicity

Acute toxicity:	No Classification
Fish:	96hrLC50: 5700 mg/L[Pimephales promelas]
Daphnia:	48hrEC50: 1192 mg/L[Daphnia magna]
Algae:	96hrEC50:> 500 mg/L[Scenedesmus]
Chronic toxicity:	No Classification
Fish:	No data
Daphnia:	No data
Algae:	No data
Persistence and degradability :	Readily biodegradable
Bioaccumulative potential :	No data
Hazardous to the ozone layer:	Classification not possible

13. Disposal considerations

Disposal methods: When waste materials and waste water are to be treated, collect them into specified containers and entrust the disposal to a disposal contractor having an industrial waste disposal contractor permit. Do not use the used containers for other purposes like filling other substances. Be sure to dispose of them after treating the content according to the above description. In case of recycling the container, return the container as it is after fitting a stopper without filling anything into it.

14. Transport information

International regulations	UN classification :	Not applicable
	UN number :	Not applicable
	Proper shipping name :	Not applicable
	Packing	Not applicable
Domestic restriction:	Transport the material in accordance with the regulations in your country or region.	
Specific security precaution and condition of transportation:	Load the containers in such a way as not to wet with water, fall down, tumble, or being damaged. Cover the loaded cargo to prevent direct sunlight.	
Emergency Response Guide (ERG) Numbers:	171	

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15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Reference	Information obtained in NITE (National Institute of Technology and Evaluation) and other literature surveys.
Disclaimer	<p>About the description: This SDS was created in accordance with JIS Z 7253 based on the materials and data available at the time of creation.</p> <p>Detailed information such as composition and ingredients corresponding to overseas legal regulation registration confirmation etc. may not be described, so please contact our sales staff separately if necessary.</p> <p>Precautions are for normal handling. In case of special handling, it is the responsibility of the user to take safety measures suitable for the intended use and usage.</p> <p>We have paid close attention to the contents, but we do not guarantee the contents.</p> <p>This product can only be used for industrial purposes. If you want to use it for other purposes, please contact us in advance.</p>