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Safety Data Sheet

1. Chemical product and company identification

Product name	:	Methyl acetate

Company information

Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section	:	Business Administration Department, Reagent Division
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@kanto.co.jp
Reference No	:	25177
Recommended use	:	For research use only
Restrictions on use	:	Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards	Flammable liquids	Category 2
Health hazards	Serious eye damage/eye irritation	Category 2B
	Specific target organ toxicity (single exposure)	Category 1 (optic nerve)
	Specific target organ toxicity (single exposure)	Category 3 (narcosis)
	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)
	Specific target organ toxicity (repeated exposure)	Category 1 (optic nerve)

Hazard pictograms



Signal word : Danger

Hazard statements :
Highly flammable liquid and vapor
Causes eye irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Causes damage to organs (optic nerve)
Causes damage to organs (optic nerve) through prolonged or repeated exposure

Precautionary statements

Prevention :
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.

		Use only non-sparking tools. Take action to prevent static discharges. Do not breathe mist/vapors. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	:	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . 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. IF exposed or concerned: Call a POISON CENTER or doctor. Call a POISON CENTER or doctor if you feel unwell. Get medical advice/attention if you feel unwell. If eye irritation persists: Get medical advice/attention.
Storage	:	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture	:	Substance
Synonyms	:	Acetic acid methyl ester

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Methyl acetate	≥ 99	C3H6O2	Listed	201-185-2	79-20-9

4. First aid measures

First aid measures

First-aid measures after inhalation	:	Remove the victim to fresh air, and make him blow his nose and gargle.
First-aid measures after skin contact	:	Wash the affected areas under running water.
First-aid measures after eye contact	:	Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.
First-aid measures after ingestion	:	The chemical is volatile. Do not induce vomiting because it increases the risk of aspiration into the lungs. Get medical attention immediately. If necessary, rinse mouth with water.
Personal Protection in First Aid and Measures	:	Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media	:	Dry chemical, CO2, dry sand, or alcohol-resistant foam

Unsuitable extinguishing media	:	Water spray, Foam extinguisher
Firefighting instructions	:	Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area. Fight fire from windward. Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Alcohol-resistant foam extinguisher is effective for a large scale fire.
Personal protection (Emergency response)	:	Wear breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures	:	Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Environmental precautions

Environmental precautions	:	Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment	:	Absorb spill with inert material (e.g, diatomaceous earth, sand) and flush spillage area with copious amounts of water.
Prevention Measures for Secondary Accidents	:	Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures	:	Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Fire is strictly prohibited. Ventilate well at working places. Prevent build-up of electrostatic charges (e.g. by grounding).
Precautions for safe handling	:	Use with an enclosed system or a local exhaust ventilation. Use in well-ventilated areas. Do not allow contact with oxidizing substances.

Storage

Storage conditions	:	Store in a dark, cool place and tightly closed.
Material used in packaging/containers	:	Glass, fluorine resin, stainless steel. Do not use vinyl chloride resin, acrylic resin, polyethylene etc.

8. Exposure controls / Personal protection equipment

ACGIH TWA	200 ppm
ACGIH STEL	250 ppm

Appropriate engineering controls	:	Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiratory protection	:	Chemical cartridge respirator with an organic vapor cartage or airline respirator
Hand protection	:	Impervious protective gloves
Eye protection	:	Safety goggles
Skin and body protection	:	Protective clothing, protective boots

9. Physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless.
Odor	:	Aromatic
pH	:	No data available
Melting point	:	-98.05 ° C
Freezing point	:	No data available
Boiling point	:	57.8 ° C
Flash point	:	-10 ° C (C.C.)
Auto-ignition temperature	:	502 ° C
Decomposition temperature	:	No data available
Flammability	:	Flammable
Vapor pressure	:	288 hPa (25℃)
Relative density	:	No data available
Density	:	0.930 - 0.935 g/cm³ (20℃)
Relative gas density	:	2.6
Solubility	:	Organic solvents; Freely soluble in ethanol, diethyl ether, etc. Water: 24 % (20℃)
Partition coefficient n-octanol/water (log Pow)	:	0.18
Explosive limits (vol %)	:	4.1 - 13.9 vol %
Viscosity, kinematic	:	0.41 mm²/s (20℃)
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	It is susceptible to hydrolysis, and when it comes into contact with water for a long time, it decomposes even at room temperature to produce acetic acid and methanol. Decomposes by ultraviolet irradiation to produce methanol, acetone, diacetyl, etc.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under normal conditions of use.
Conditions to avoid	:	Light, heat.
Incompatible materials	:	Water, oxidizing substances.
Hazardous decomposition products	:	Carbon monoxide.

11. Toxicological information

Acute toxicity (oral)	:	No classification rat LD50=4800mg/kg

Acute toxicity (dermal)	:	No classification rat LD50>2000mg/kg
Acute toxicity (inhalation)	:	No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	No classification In a skin irritation test (OECD TG and EU guideline compliant) in which 0.5 mL of this substance was applied semi-occlusively to rabbits for 4 hours, erythema (grade 1) was observed 1 hour after application but this disappeared completely within 48 hours. In addition, there is a report that no irritation was observed after application of this substance to the skin of humans.
Serious eye damage/irritation	:	Causes eye irritation There is a report that in a Draize test (OECD TG and EU guideline compliant) in which 0.1 mL of the undiluted liquid of this substance was applied to rabbits, severe irritation was observed in the cornea (mean score at 24, 48 and 72 hours: 1, 1.7, 1.3), iris (mean score: 1, 1, 1), and conjunctival redness (mean score 1.7, 1.7, 2) and edema (mean score: 2.7, 2.3, 3) with discoloration and bleeding were also observed, but symptoms disappeared within 7 days. From the above, based on the description of reversibility, it was classified into category 2B.
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	No classification There is a description that there were no reports of contact allergy due to exposure to this substance in humans, and this substance was unlikely to show sensitization to the skin. In addition, this substance is hydrolyzed to methanol and acetic acid in contact with water. There is a report that also in a maximization test with 25 volunteers, no sensitization was observed after application of 10% of this substance.
Germ cell mutagenicity	:	No classification As for in vivo, it was negative in a micronucleus test with rats' bone marrow cells. As for in vitro, it was negative in bacterial reverse mutation tests.
Carcinogenicity	:	Classification not possible
Reproductive toxicity	:	Classification not possible
STOT-single exposure	:	Causes damage to organs (optic nerve) May cause drowsiness or dizziness May cause respiratory irritation In humans, by inhalation exposure to the vapour, there were reports of cough, sore throat, tightness of the chest, hypoesthesia, headache, dizziness, lassitude, unsteady gait, narcotic effects, loss of consciousness, somnolence, central nervous system depression, and as for optic nerve disorders, transient loss of binocular vision, bilateral atrophy of the optic nerve, and narrowing of visual field. In addition, by oral ingestion, there were reports of abdominal pain, nausea, vomiting, weakness, convulsions and dyspnea. As for experimental animals, by inhalation exposure of cats to the vapour at 56.1 mg/L, narcotic effects and dyspnea were observed but these subsequently disappeared. These findings in cats were observed exceeding the guidance value of category 2. From the above, it was classified into category 1 (optic nerve), category 3 (respiratory tract irritation, narcosis).

STOT-repeated exposure	:	Causes damage to organs (optic nerve) through prolonged or repeated exposure There is a case report that in workers exposed to the vapour of this substance in a small room, decreased visual acuity occurred, and bilateral optic nerve atrophy and narrowing of the visual field were observed after initial symptoms such as headaches and dizziness. There is a description that this substance is degraded to methanol and acetic acid in vivo, and the optic nerve damage was considered effects of the metabolite, methanol. As for experimental animals, in a study in which the nose of rats were exposed to this substance for 28 days, no effects were observed at up to 350 ppm, and damages of the respiratory organs were observed at 2,000 ppm exceeding the range of category 2. However, the presence or absence of effects on the respiratory organs at the upper limit of category 2 was unknown from the results of this study, and these could not be adopted for classification. From the above, based on the findings in humans, it was classified into category 1 (optic nerve).
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	No classification Green algae EC50>120mg/L/72h
Aquatic chronic	:	No classification

Persistence and degradability

Readily biodegradable
BOD : 92%

Bioaccumulative potential

Low bioconcentration
BCF : 3.2

Mobility in soil

High mobility
Koc : 9.1

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	1231

Proper Shipping Name (IMDG)	:	METHYL ACETATE
Packing group (IMDG)	:	II
Transport hazard class(es) (IMDG)	:	3

Air transport(IATA)

UN-No. (IATA)	:	1231
Proper Shipping Name (IATA)	:	Methyl acetate
Packing group (IATA)	:	II
Transport hazard class(es) (IATA)	:	3
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollutant category	:	Z
MFAG-No	:	129

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

Data sources : Solvents Handbook, T, Asahara el, Kodansha Scientific Ltd. (1976) .
Handbook of dangeroous and hazardous chemicals, Japan Industrial Safety & Health Association. (2000-2001) .
Handbook of Dangerous Substances Springer-Verlag Tokyo (1991) .
Handbook of 17322 Chemical Products, The Chemical Daily Co. (2022) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.