Safety Data Sheet

1. Product and company identification

Product name	:	Ethyl acetate
Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan
Name of section	:	Electronic materials division technical department
Telephone number	:	+81-3-6214-1080
Facsimile number	:	+81-3-3241-1043
Mail address	:	el-info@gms.kanto.co.jp
SDS No.	:	GE00055

2. Summary of danger and Hazard

GHS classification

Physical and chemical hazard

Flammable liquids	:	Category 2
Pyrophoric liquids	:	Out of category

Human health hazard

Acute toxicity(oral)	:	Out of category
Acute toxicity(dermal)	:	Out of category
Acute toxicity(inhalation:vapors)	:	Category 4
Skin corrosion・Irritation	:	Out of category
Serious eye damage・Eye irritation	:	Category 2B
Skin sensitization	:	Out of category
Specific target organ systemic toxicity(single exposure)	:	Category 3 (respiratory tract irritation)、 Category 3 (anesthetic action)

Environmental hazard

Hazardous to the aquatic environment-acute hazard	:	Out of category
Hazardous to the aquatic environment-chronic hazard	:	Out of category

Pictogram or symbol

Signal word	:	Danger
Hazard statement	:	Highly flammable liquid and vapor Harmful if inhaled

Causes eye irritation

May cause respiratory irritation

May cause drowsiness and dizziness

Cautions

Safety measurements : Keep away from ignition sources such as heat, sparks, or open flame.

Keep containers tightly closed.

Ground container and receiving equipment in case of transport and stirring.

Use explosion-proof apparatus.

Use only non-sparking tools.

Avoid breathing dust, mist, and vapor.

Use only in a well-ventilated area.

Wear appropriate protective gloves, glasses, clothing, face shield, or mask.

First-aid measures : If inhaled : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical treatment if you feel unwell.

If in eyes : Rinse cautiously with water for several minutes. Get medical treatment.

If on skin : Remove contaminated clothing and the substance. Get medical treatment, if you feel unwell.

Wash hands thoroughly after handling.

Storage : Tightly container closed and store in a well-ventilated area.

Store locked up.

Disposal : Dispose of contents and containers appropriately in accordance with related regulations.

3. Composition/Information on ingredients

Substance/Mixture : Substance

Chemical name or commercial name

: Ethyl acetate

Ingredients and composition

: Ethyl acetate min. 99.0%

Chemical formula : $CH_3COOCH_2CH_3$

CAS No. : 141-78-6

TSCA Inventory : Registered

EINECS No. : 2055004

Dangerous and hazardous ingredients

: Ethyl acetate

4. First aid measures

Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

Skin contact : Wash the affected areas under running water.

Eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.

Ingestion : Give the victim water or salt water and make him vomit. Get medical attention.

Protection for first aid person

: Savers wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Extinguishing media : Dry chemical powder, carbon dioxide, dry sand, foam

Prohibited extinguishing media

: Water spray

Particular fire fighting : 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.

Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.

Protection for firefighters

: Wear breathing apparatus.

6. Accidental release measures

Cautions for personnel : Wear proper equipment and avoid contact with skin and inhalation of vapor. Keep personnel removed from and upwind of fire. Shut off all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Cautions for environment : Attention should be given not to cause damage to the environment by flowing of spillage to rivers. In case of the dilution of copious water, do not cause damage to the environment by untreated wastewater.

Removal measure : Absorb spill with inert material (e.g., diatomaceous earth, sand) and flush residual area with copious amounts of water.

Prevention of second accident

: Remove nearby sources of ignition and prepare extinguishing media.

7. Cautions of handling and storage

Handling

Engineering measures : Wear proper equipment not to contact with skin or inhale the vapor. Fire is strictly prohibited.

Ventilate well at working places.

Cautions for safety handling

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

Cautions : Do not contact with oxidizing substances.

Storage

Adequate storage condition

: Store in a dark, cool place and tightly closed.

Safety adequate container materials

: Glass, fluorine resin, stainless steel

Do not use vinyl chloride resin, acrylic resin, polystyrene etc.

8. Exposure control/Personal protection

Engineering measures : Use only with adequate ventilation and in closed systems.

Control parameters

ACGIH(2009) : 400ppm, 1440mg/m3(TLV-TWA)

Protective equipment

Respiration protective equipment

: If necessary, wear chemical cartridge respirator with an organic vapor cartage

Hands protective equipment

: Impervious protective gloves

Eyes protective equipment

: Safety goggles

Skin and body protective equipment

: Protective clothing, protective boots

9. Physical and chemical properties

Appearance	: Liquid
Color	: Colorless
Odor	: Aromatic odor
Boiling point	: 77.1℃
Melting point	: -83.8℃
Flash point	: -4℃
Auto-ignition point	: 425.5℃
Explosion characteristics	
Explosion limit	: upper : 11.4vol% lower : 2.18vol%
Vapor pressure	: 97hPa(20℃)
Vapor density	: 3.04
Specific gravity	: 0.90g/cm3 (20℃)
Solubility	
Solubility in solvents	: Water ; 8.08%(25℃) Soluble in many kinds of organic solvents
log Pow	: 0.730
Other data	: Viscosity : 0.449cP(20℃)

10. Stability and reactivity

Stability	: Stable under normal usage.
Reactivity	: May react with oxidizing substances.
Incompatible conditions	: Light, heat
Incompatible materials	: Oxidizing substances
Hazardous decomposition products	: Carbon monoxide

11. Toxicological information

Acute toxicity	: Oral : Out of category Dermal : Out of category Harmful if inhaled(vapor)(category 4)

Inhalation(dust, mist) : Not possible to classify because of insufficient data.

Based on the description that there were no death cases after close-applied to rabbit skin 18000mg/kg for 24 hours, acute toxicity (skin) is set to out of category.

rat oral LD50=4920mg/kg

rat inhalation LC50=19600ppmV/4H

Skin corrosiveness : Out of category

Based on a result of "not irritating" in a rabbit test where the irritation score was 1 (max 10) following open application of 0.01 mL of the substance to the skin for 24-hour, it was set into out of category.

Irritation to skin, eyes : Causes eye irritation(category 2B)

Based on a report of a Draize test using 4 rabbits where corneal opacity (4/4) was resolved within 2 days, iritis (1/4) was resolved within 2 days, conjunctivae redness, chemosis and discharge (4/4) disappeared by 7 days after application of 0.1 mL to the eyes, and the MMAS (Modified Maximum Average Score) at 24, 48 and 72-hour after application was calculated to be 15.0, it was classified into category 2B.

Respiratory sensitization or Skin sensitization

: Respiratory sensitization : Not possible to classify because of insufficient data.

Skin sensitization : Out of category

Based on the report of no skin sensitization by Maximization test using guinea pigs, and no skin sensitization by Maximization test of 25 subjects, the classification is set to out of category.

Mutagenicity : Not possible to classify because of insufficient data.

There are the negative results of micronuclei test (body cells in vivo mutagenicity) using bone marrow cells after interperitoneal and oral administration to mice and hamsters.

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system

: Not possible to classify because of insufficient data.

Specific target organ systemic toxicity single exposure

: May cause respiratory irritation(category 3)・May cause drowsiness and dizziness(category 3)

It was reported that exposure of volunteers for 4-hour to 400 ppm of the substance led to slight irritation of the eyes, nose and throat. There is a report that the inhalation exposure to cats and mice and the oral exposure to rabbits caused narcotic effects at dose levels of equal to or less than the LD50 value. The effects are transient. Based on these result, it was claasified into category 3(respiratory tract irritation, narcotic effects).

Specific target organ systemic toxicity repeated exposure

: Not possible to classify because of insufficient data.

Aspiration hazard : Not possible to classify because of insufficient data.

12. Ecological information

Ecotoxicity

Fish toxicity : Acute aquatic toxicity : Out of category

Chronic aquatic toxicity : Out of category

Pimephales promelas LC50=230mg/L/96H

Rediualbility and degradability

: Not available

Ecorediualbility : Not available

13. Disposal consideration

Residual disposal : Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class : Class 3(Flammable liquids) P. G. Ⅱ

UN number : 1173

Marine regulation information

UN No. : 1173

Proper shipping name : ETHYL ACETATE

Class : 3

Sub risk : -

Packing group : Ⅱ

Marine pollutant : Not applicable

Aviation regulation information

UN No. : 1173

Proper shipping name : Ethyl acetate

Class : 3

Sub risk : -

Packing group : Ⅱ

15. Regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

References

Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd.(1985)

Dangerous Properties of Industrial Materials,6th ed. N.I.Sax Van Nostrand Reinhold Company(1984)

Handbook of Dangerous Substances Springer-Verlag Tokyo(1991)

Handbook of 15710 Chemical Products, The Chemical Daily Co.(2010)

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, and it has the same required elements on the Material Safety Data Sheet(MSDS) which is prepared based on JIS Z7250:2010.