Date of issue : 17 September, 2003
Date of revision : 17 February, 2016

Safety Data Sheet

1. Product and company identification

Product name	:	Tetrahydropyran
Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan
Name of section	:	Reagent division, catalog and products information section
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@gms.kanto.co.jp
SDS No.	:	40067

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
Skin corrosion・Irritation	:	Category 2
Serious eye damage・Eye irritation	:	Category 2A

Pictogram or symbol

Signal word : Danger

Hazard statement : Highly flammable liquid and vapor
Causes skin irritation
Causes serious eye irritation

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.
Wear appropriate protective gloves, glasses, clothing, face shield, or mask.
Wash protective equipment thoroughly after use.

First-aid measures : If in eyes : Rinse cautiously with water for several minutes. Get medical treatment.

If on skin : Remove contaminated clothing and the substance. Wash with plenty of water.

Wash hands thoroughly after handling.

Storage : Store in a cool and well-ventilated area.

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

: Tetrahydropyran

Synonyms : Pentamethylene oxide

Ingredients and composition

: Tetrahydropyran min. 98.0%

Chemical formula : C5H10O

CAS No. : 142-68-7

TSCA Inventory : Registered

EINECS No. : 2055528

Dangerous and hazardous ingredients

: Tetrahydropyran

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

8. Exposure control/Personal protection

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

Control parameters

ACGIH(2009) : Not established

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-pale yellow

Odor : Sweet pungent odor

Boiling point : 88℃

Melting point : -49.2℃

Flash point	:	-20℃
Auto-ignition point	:	Not available
Explosion characteristics		
Explosion limit	:	upper : Not available lower : Not available
Vapor pressure	:	37.33hPa(25℃)
Vapor density	:	4.0
Specific gravity	:	0.881g/mL(20℃)
Solubility		
Solubility in solvents	:	Water ; 80.2g/water1L, 25℃
		Organic solvents ; Soluble in many kind of organic solvents.

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 : Not possible to classify because of insufficient data.
		Inhalation(vapor) : Not possible to classify because of insufficient data.
		Inhalation(dust, mist) : Not possible to classify because of insufficient data.
		rat oral LDLO=3000mg/kg
Skin corrosiveness	:	Causes skin irritation(category 2)
		Since causes irritation to the skin, it was classified into category 2.
Irritation to skin, eyes	:	Causes serious eye irritation(category 2A)
		Since causes irritation to the eyes, it was classified into category 2A.
Respiratory sensitization or Skin sensitization		
	:	Respiratory sensitization : Not possible to classify because of insufficient data.
		Skin sensitization : Not possible to classify because of insufficient data.
Mutagenicity	:	Not possible to classify because of insufficient data.
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		
	:	Not possible to classify because of insufficient data.
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 : Not possible to classify because of insufficient data.

Chronic aquatic toxicity : Not possible to classify because of insufficient data.

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 : 1993

Marine regulation information

UN No. : 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S.

Class : 3

Sub risk : -

Packing group : Ⅱ

Marine pollutant : Not applicable

Aviation regulation information

UN No. : 1993

Proper shipping name : Flammable liquid, n.o.s.

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.