Safety Data Sheet

1. Product and company identification

Product name	:	Pyruvic acid
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.	:	32506

2. Summary of danger and Hazard

GHS classification

Physical and chemical hazard

Flammable liquids	:	Out of category
Pyrophoric liquids	:	Out of category

Human health hazard

Skin corrosion・Irritation : Category 1A

Serious eye damage・Eye irritation : Category 1

Specific target organ systemic toxicity(single exposure) : Category 3 (respiratory tract irritation)

Pictogram or symbol



Signal word : Danger

Hazard statement : Causes severe skin burns and eye damage
Causes serious eye damage
May cause respiratory irritation

Cautions

Safety measurements : Do not breathe dust and mist.
Use only in a well-ventilated area.
Wear appropriate protective gloves, glasses, clothing, face shield, or mask.
Wash protective equipment thoroughly after use.

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 swallowed: Rinse mouth, do not induce vomiting. Immediately get medical treatment.

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

If on skin : Remove contaminated clothing and the substance. Immediately get medical treatment.

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

: Pyruvic acid

Synonyms : 2-Oxopropanoic acid

Ingredients and composition

: Pyruvic acid min. 97.0%

Chemical formula : $CH_3COCOOH$

CAS No. : 127-17-3

TSCA Inventory : Registered

EINECS No. : 2048243

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. Get medical treatment.

Ingestion : Rinse mouth with water. Give the victim one or two glasses of water or milk, do not induce vomiting. Get medical treatment as soon as possible.

Protection for first aid person

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

5. Fire fighting measures

Extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand

Prohibited extinguishing media

: None

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 : Remove the spillage by absorption with diatomaceous earth or dry sand. Or else dilute with water gradually and neutralize with calcium hydroxide solution or sodium carbonate solution then wash thoroughly with 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 refrigerator and tightly closed. (0-6℃)

Safety adequate container materials
: Glass, fluorine resin

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 : Yellow

Odor : Acetic acid odor

pH	:	1.2(90g/l, 20℃)
Boiling point	:	Partly decomposition(165℃)
Melting point	:	13.6℃
Flash point	:	102℃
Auto-ignition point	:	305℃
Explosion characteristics		
Explosion limit	:	upper : Not available lower : Not available
Vapor density	:	3.1
Specific gravity	:	1.267g/ml(15℃)
Solubility		
Solubility in solvents	:	Water ; Freely soluble
		Organic solvents ; Freely soluble in ethanol, diethyl ether, etc.

10. Stability and reactivity

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

11. Toxicological information

Acute toxicity	:	Oral : Not possible to classify because of insufficient data.
		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.
Skin corrosiveness	:	Causes severe skin burns and eye damage(category 1A)
		Since pH of the water solution is acid, and it has severe irritation property of skin, it was set into category 1A.
Irritation to skin, eyes	:	Causes serious eye damage(category 1)
		Since pH of the water solution is acid, and it has severe irritation property of eyes, it was set into category 1.
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		
	:	May cause respiratory irritation(category 3)

Since vapor inhalation causes irritation of nose and throat, and also causes cough, and shortness of breath, it was set into category 3 (respiratory tract irritation).

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 8(Corrosive substances) P. G. Ⅱ

UN number : 3265

Marine regulation information

UN No. : 3265

Proper shipping name : CORROSIVE LIQUID ACIDIC, ORGANIC, N.O.S.

Class : 8

Sub risk : -

Packing group : Ⅱ

Marine pollutant : Not applicable

Aviation regulation information

UN No. : 3265

Proper shipping name : Corrosive liquid acidic, organic, n.o.s.

Class : 8

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 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.