Samchun Chemicals

Material Safety Data Sheet

Acetic acid

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

1. Product Identifier Acetic acid; Glacial acetic acid; Vinegar acid

2. Recommended Use & Uses advised against Uses for Laboratory and R&D, Industrial only

3. Information of Supplier

SAMCHUN PURE CHEMICAL CO.,LTD
ADDRESS; (Mogok-dong) 117, Sandan-ro 16Beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea
Emergency Phone; 82-31-668-0700/3
Department; Safety & Environment dep.
Web site; http://www.samchun.com

Section 2 – HAZARDS and DANGER IDENTIFICATION

1.GHS Classification· Identification

Flammable liquid	Category3
Metal corrosive material	Category1
Acute toxic(Skin)	Category4
Skin Corrosion/Skin Irritation	Category1
Serious Eye Damage/Eye Irritation	Category1
Respiratory sensitization	Category1
Specific Target Organ Toxicity (Single Exposure)	Category1

2. Label and Mark including Precautionary Statement

◦**Label elements**

◦**Signal word** Danger

◦**Hazard · Danger statement**

H226 Flammable liquid and vapour
H290 May be corrosive to metals
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H370 Causes damage to organs

◦**Precautionary statement**

Precaution

P210 Keep away from heat/sparks/open flames/hot surfaces. . No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P234 Keep only in original container
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Precaution	P264 Wash ... thoroughly after handling. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P284 If inadequate ventilation wear respiratory protection P270 Do not eat, drink or smoke when using this product.
Measures	P303+P361+P353 SKIN (or hair) all contaminated clothing IF ON Take off. Rinse skin with water / shower. P370+P378 In case of fire: Use (Section 5. explosions, according to the fire-fighting extinguishing agent suitable method) for extinction P390 Absorb spillage to prevent material damage. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see Seciton 4. on this label). P302+P352 IF ON SKIN: Wash with plenty of water / (...) P361+P364 Take off immediately all contaminated clothing, Wash before reuse P310 Immediately call a POISON CENTER or doctor/physician. P363 Wash contaminated clothing before reuse. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P308+P311 If exposed or concerns, call a poison center or physician P403+P235 Store in a well-ventilated place. Keep cool.
Storage	P406 Store in corrosive resistant/... container with a resistant inner liner P405 Store locked up
Dispose	P501 Dispose of contents/container under related law and regulations

3. Other Hazard-Risk which are not included in the classification criteria

NFPA index(0~4steps) : Health=3, Fire=2, Reaction=0

By the flow of a substance or mixture that also can cause static electricity

Section 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name	Other Name	CAS No.	Content (%)
Acetic acid	Glacial acetic acid, Vinegar acid	64-19-7	100

Section 4 – FIRST AID MEASURES

1. Eye Contact	Rinse with plenty of water for at least 15minutes and get medical attention immediately.
2. Skin Contact	Take off contaminated cloths and shoes immediately, wash with plenty of water and soap for at least 15minutes.
3. Inhalation	Move victim to fresh air. If breathing is difficult, give artificial respiration and get medical attention immediately.
4. Ingestion	Do not induce vomiting. Get medical advice/attention immediately.
5. Immediate medical attention and Notes for physician	Keep the medical personnel aware of the materials involved and take protective action. In case of inhalation, consider oxygen supply. Avoid gastric lavage and vomiting when ingesting.

Section 5 – FIRE-FIGHT MEASURES

1. Suitable extinguish media	Powder extinguisher, foam extinguisher, carbon dioxide, water spray, alcohol-resistant foam Inappropriate Extinguishing Media: N/A
2. Special hazards arising from the substance	Thermal decomposition products: Carbon oxides
3. Special protective equipment and	Move containers from fire area if you can do it without risk. When

Precautions for fire-fighters	extinguishing a fire, be sure to wear personal protective equipment. If it is not possible to extinguish the fire, withdraw immediately. Keep containers cool by spraying with water for a long time, even after the fire is out. Isolate hazardous areas and deny access to people.

Section 6 – ACCIDENTIAL RELEASE MEASURES

1.Personal precautions and Emergency procedures	Do not touch spilled material. Avoid inhalation and skin contact. In case of confined space, wear air respirator and ventilate and remove all sources of ignition.
2. Environmental precautions	Minimize leak/spill, collect and keep leak/spill in container
3. Methods and material for containment and cleaning up	Soak up with sand, clay and other inert absorbent material

Section 7 – HANDING AND STORAGE

1. Precautions for safe Handling	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. All containers should be grounded.
2. Conditions for safe storage	Keep container tightly closed in a dry, cool and well-ventilated place. Keep away from incompatible materials.

Section 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

1.Occupational exposure limit, biological exposure limit
National law of Safety management of
Occupational Health and Safety Act
-TWA :10 ppm , 25mg/㎥
-STEL : 15ppm , 37mg/㎥

2. Appropriate Engineering controls	Ensure compliance with applicable exposure limits and operate local exhaust ventilation when working. If the substance is at risk of explosion, ventilation equipment should be explosion-resistant.

3. Personal protective equipment

◦**Respiratory protection**	Because it is concerned about the harmfulness of human body due to chemical substances, it is recommended to wear respiratory protective equipment with dust mask or dust filter in consideration of physical and chemical characteristics when handling. Respiratory protection should be certified by the Health and Safety Authority. It is concerned about the harmfulness of the human body depending on the working environment, it should wear respirator, air-purifying respirator
◦**Eye-protection**	Wear safety glasses when handling as they may cause human health hazards due to chemicals. Install eye wash facilities and emergency eyewash stations near chemical handling sites
◦**Hand protection**	Wear safety gloves when handling, as it is likely to harm human health due to chemicals
◦**Skin and body proticion**	Wear chemical protective clothing when handling, as it is likely to harm human health due to chemicals

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

1.Physical state and color	Liquid(Colorless to Transparency)	**2.Odor**	Vinegar odor
3.threshold	N/A	**4. pH**	2.4(1.0M solution)
5.Melting/Freezing point	17℃	**6.Boiling point/range**	118℃
7. Flashing point	39℃	**8. Evaporation speed**	0.97(butyl acetate=1)
9. Flammability(solid,gas)	N/A	**10. Flash or Explosion limit upper / lower**	17% / 6.0%
11. Vapor pressure	1.5kPa(20℃)	**12. Solubility**	100g/100ml(25℃ water soluble)

13. Vapor density	2.07	**14.Gravity**	1.0492
15. n-octanol-water Partition coefficient	-0.17	**16. Self ignition temp(℃)**	485℃
17. Cracking temp(℃)	N/A	**18. Viscosity**	1.22cP(20℃)
19. Molecular Weight	60.05		

Section 10 – STABILITY AND REACTIVITY

1.Chemical stability and Possibility of Hazardous Reactions	Stable under normal temp. and pressure Not polymerize
2. Conditions to Avoid	Avoid heat, sparks, flames and other sources of ignition. Keep away from waterworks and sewers.
3. Incompatible Materials	Combustible materials, amines, oxidants, bases, halogens, acids, peroxides, metals, rubber, plastics
4. Hazardous Decomposition Products	Thermal decomposition products: Carbon oxides

Section 11 – TOXICOLOGICAL INFORMAION

1. Information on the likely routes of exposure.

N/A

2. Health hazard information

◦**Acute toxic**	Oral : LD50 3310mg/kg Rat Skin : LD50 1060mg/kg Rabbit Inhalation : LC50 16000 ppm 4hr Rat
◦**Serious skin corrosive / irritation**	Skin necrosis and burns appear in animal experiments
◦**Serious eye damage / irritation**	Causes serious eye damage in rabbits. Causes permanent corneal damage. Accidentally causing human corneal paralysis or turbidity
◦**Respiratory sensitization**	Inhalation exposure causes respiratory irritation such as bronchial asthma.
◦**Skin sensitization**	N/A
◦ **Carcinogenicity**	N/A
◦ **Germ cell Mutagenicity**	N/A
◦ **Reproductive toxic**	N/A
◦**Specific target organ toxicity (single exposure)**	N/A
◦**Specific target organ toxicity (repeated exposure)**	It causes intravascular coagulation in humans, causing severe hemolysis. Inhalation exposure in humans results in irritation of the nose and lungs. Inhalation of vapors in humans causes airway corrosion, lung edema
◦**Aspiration hazard**	N/A

Section 12 – ECOLOGICAL INFORMATION

1.Acquatic and Terrestrial eco toxicity	Fish toxicity : LC50 251mg/l 96hr Invertebrate toxicity : EC50 47mg/l 24hr Sea algae : N/A
2.Persistence and degradability	Persistence : N/A Degradability : N/A

3.Bioaccumulative potential	Concentrations : N/A Bioaccumulative : N/A
4.Mobility in soil	N/A
5.Other adverse effects	N/A

Section 13 – Disposable considerations

1.Waste methods	Dispose in accordance with local regulations.
2.Waste warning	Dispose prohibited substances and waste separately from others.

Section 14 – TRANSPORT INFORMATION

1. UN No.	2789
2.Proper shipping Name	Acetic acid
3.Hazard class	8(3)
4.Packing group	Ⅱ
5.Marine pollutnat	Non-described
6.Particular safety Measures for transportation	Fire emergency : F-E Emergency measures RELEASE : S-C

Section 15 – REGULATARY INFORMATION

1.Occupation safety and health acts	Standard material of exposure Test material of working environment (Test period; 6months) Hazardous material of administration objective
2. Chemical Substances Control Act	Non-described
3. National law of Safety management of hazardous material	4 Class 2 Petroleum Water-soluble liquid 2000L
4.National law of management of Wastes	Designated Waste
5.Other domestic and foreign law	EU classification information (confirmed classification result): R10C; R35 EU classification information (Risk phrases): R10, R35 EU Classification (Safety Phrases): S1 / 2, S23, S26, S45

Section 16 – OTHER INFORMATION

1. Material source	A chemical information MSDS Safety and Health Agency National Institute of Environmental Research Chemical Information Systems Korea Industrial Technology National Fire Hazardous Materials Information System
1. The 1st edition	2002.07.30
2. Revision and The final revision	9 / 2019.01.03

. Other references

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