Samchun Chemicals

Material Safety Data Sheet

0.1M Perchloric acid-acetic acid solution

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

1. Product Identifier 0.1M Perchloric acid-acetic acid solution

2. Recommended Use & Uses advised against Uses for Laboratory and R&D 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
Serious Eye Damage/Eye Irritation	Category1
Skin Corrosion/Skin Irritation	Category1
Respiratory sensitization	Category1

2. Label and Mark including Precautionary Statement

◦**Label elements**



◦**Signal word** Danger

◦**Hazard · Danger statement**

H226 Flammable liquid and vapour
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

◦**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
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P284 If inadequate ventilation wear respiratory protection

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
P310 Immediately call a POISON CENTER or doctor/physician.
P321 Specific treatment (see Seciton 4. on this label).

Measures	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.
Storage	P403+P235 Store in a well-ventilated place. Keep cool. 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=1

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		64-19-7	> 99
Perchloric acid		7601-90-3	0 ~ 1

Section 4 – FIRST AID MEASURES

1. Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15minutes, Immediate medical attention is required.
2. Skin Contact	Take off contaminated cloths and shoes immediately, wash with plenty Of water and soap for at least 15minutes.
3. Inhalation	Move to fresh air immediately, if breathing is difficult, induce artificial respiration and immediate medical treatment is required.
4. Ingestion	Do not induce vomiting and Call a physician immediately.
5. Immediate medical attention and Notes for physician	Let physician aware material and take protection measures.

Section 5 – FIRE-FIGHT MEASURES

1. Suitable extinguish media	Dry chemical, carbon dioxide, foam fire extinguishing agent Inappropriate Extinguishing Media: Not available
2. Special hazards arising from the substance	Thermal decomposition products: oxides of carbon, hydrogen chloride
3. Special protective equipment and Precautions for fire-fighters	Move a container away from fire place, available not being dangerous Cool the container with water spray for long time, after extinguishing No direct contact with material by water. In case of big fire, mass watering in fine spray and decrease vapor. Spray in safety distance, avoid inhaling of material-itself and burnings, position in opposite wind and escape low area.

Section 6 – ACCIDENTIAL RELEASE MEASURES

1.Personal precautions and Emergency procedures	Don't touch leakages and avoid inhale and skin contact, ventilate and use air respiratory in closed room, remove ignition source.
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	Skin contact, inhalation of vapors and prevent intrusion to the eye, all containers will be grounded.
2. Conditions for safe storage	Keep container tightly sealed and stored dry, cool place, in a well-

ventilated area.
Will be isolated and incompatible materials.
Store with flammable liquids.
Avoid heat, flames, sparks and other sources of ignition.

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
Acetic acid : TWA: 10ppm, 25mg / ㎥ -STEL: 15ppm, 37 mg / ㎥ 10ppm (25mg / ㎥) OSHA TWA 10ppm (25mg / ㎥) NIOSH recommended TWA 10 hour

2. Appropriate Engineering controls	Check conditions of exposure criteria, operation local ventilation during work If the explosive concentrations of material are Ventilation equipment should be explosion-resistant.
3. Personal protective equipment	
◦**Respiratory protection**	Because hazards to human concerns caused by chemicals, wear respiratory protective equipment that combines the respirator filter to consider when handling Physical and chemical properties Reserve for breathing pilhal certified by the Safety and Health Agency Depending on the work environment affect the image density, or other life or health is concerned, wear supplied-air respirator, air respirator
◦**Eye-protection**	Since the human body due to chemical hazards are concerned Wear safety glasses when handling chemical substances Chemicals Provide eye wash facilities and emergency washing equipment near the handling areas
◦**Hand protection**	Since the human body is concerned due to chemical hazards should wear safety gloves when handling chemicals
◦**Skin and body proticion**	Since the human body due to chemical hazards are concerned Wear protective clothing for chemical handling

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

1.Physical state and color	Liquid(Colorless)	**2.Odor**	Odorless
3.threshold	N/A	**4. pH**	+/-0.1 (20℃, H2O)
5.Melting/Freezing point	N/A	**6.Boiling point/range**	N/A
7. Flashing point	40℃	**8. Evaporation speed**	N/A
9. Flammability(solid,gas)	N/A	**10. Flash or Explosion limit upper / lower**	N/A
11. Vapor pressure	N/A	**12. Solubility**	Insoluble
13. Vapor density	N/A	**14.Gravity**	1.060
15. n-octanol-water Partition coefficient	N/A	**16. Self ignition temp(℃)**	485℃
17. Cracking temp(℃)	N/A	**18. Viscosity**	N/A
19. Molecular Weight	100.46		

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 water or moisture, heat, sparks, flames and other sources of ignition. Avoid contact with incompatible materials
3. Incompatible Materials	Oxidizer
4. Hazardous Decomposition Products	Thermal decomposition products: oxides of carbon, hydrogen chloride

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 16000ppm 4hr Rat
◦**Serious skin corrosive / irritation**	It causes severe burns to the skin
◦**Serious eye damage / irritation**	It causes serious eye damage.
◦**Respiratory sensitization**	Respiratory tract burns (asthma, shortness of breath)
◦**Skin sensitization**	Allergic reactions
◦ **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)**	N/A
◦**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 : 74%
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	Isolate waste away from prohibitive mixture substance.

Section 14 – TRANSPORT INFORMATION

1. UN No.	2920
2.Proper shipping Name	Corrosive liquid, Flammable, N.O.S.*
3.Hazard class	8(3)
4.Packing group	Ⅱ
5.Marine pollutnat	N/A
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	Test material of working environment (Test period; 6months) Hazardous material of administration objective Standard material of exposure

2. Chemical Substances Control Act	Non-described
3. National law of Safety management of hazardous material	4 Class 2 Petroleum (Aqueous liquid) 2000L
4.National law of management of Wastes	Designated Waste
5.Other domestic and foreign law	EU classification (Classification): R10C; R35 EU classified information (Risk phrases): R10, R35 EU classified information (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	6 / 2019.01.03

. Other references

* **The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**