

Material Safety Data Sheet

Acetonitrile

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

1. Product Identifier	Acetonitrile; Methyl cyanide
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	Category2
	Acute toxic(Oral)	Category4
	Acute toxic(Skin)	Category3
	Serious Eye Damage/Eye Irritation	Category2
	Germ cell Mutagenicity	Category2
	Specific Target Organ Toxicity (Single Exposure)	Category1
	Specific Target Organ Toxicity (Repeated Exposure)	Category2

2. Label and Mark including Precautionary Statement

◦Label elements



◦Signal word

Danger

◦Hazard · Danger statement

H225 Highly flammable liquid and vapour
H311 Toxic in contact with skin
H302 Harmful if swallowed
H319 Causes serious eye irritation
H341 Suspected of causing genetic defects
H370 Causes damage to organs (Kidney, liver, CNS)
H373 May cause damage to organs (Central nervous system, cardiovascular, heart, kidney, liver) through prolonged or repeated exposure

◦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
P264 Wash thoroughly after handling.

Precaution	P270 Do not eat, drink or smoke when using this product. P201 Obtain special instructions before use P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/fume/gas/mist/vapours/spray.
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 P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see Section 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 P330 Rinse mouth. P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337+P313 If eye irritation persists: Get medical advice/attention. P308+P313 IF exposed: Call a POISON CENTER or doctor/physician P308+P311 If exposed or concerns, call a poison center or physician P314 Get medical advice/attention if you feel unwell. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up
Storage	
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=2, Fire=3, 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 (%)
Acetonitrile	Methyl cyanide	75-05-8	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. If inhaled, consider oxygen supply. When ingested, consider gastric lavage and activated charcoal slurry administration

Section 5 – FIRE-FIGHT MEASURES

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

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| 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 – HANDLING AND STORAGE

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| 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 must be sealed and stored in a cool dry place, in a well-ventilated area. Keep away from incompatible materials.
Internal Storage: Store with flammable liquids. |

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 : 20 ppm, 33mg/m³

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| 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 canister mask or gas 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 by the Health and Safety Authority certified 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 by the Health and Safety Authority certified when handling as they may cause human health hazards due to chemicals. |
| ◦Skin and body Protection | Wear chemical protective clothing by the Health and Safety Authority certified 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, transparent)	2. Odor	Sweet and good odor
3. threshold	N/A	4. pH	6.7(0.5M solution)
5. Melting/Freezing point	-44.9°C	6. Boiling point/range	82°C
7. Flashing point	2°C	8. Evaporation speed	5.79
9. Flammability(solid, gas)	Non-described	10. Flash or Explosion limit upper / lower	16% / 3%
11. Vapor pressure	73Hg@20°C	12. Solubility	Soluble
13. Vapor density	1.42	14. Gravity	0.78(20°C)
15. n-octanol-water Partition coefficient	-0.3	16. Self ignition temp(°C)	525°C
17. Cracking temp(°C)	N/A	18. Viscosity	0.35cP(20°C)

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. Avoid contact with plastic or rubber.
3. Incompatible Materials	Acids, metals, bases, oxidants, combustible materials, reducing agents
4. Hazardous Decomposition Products	Thermal decomposition products: cyanide, carbon, nitrogen oxides

Section 11 – TOXICOLOGICAL INFORMATION

1. Information on the likely routes of exposure.

N/A

2. Health hazard information

◦Acute toxic	Oral : LD50 617mg/kg Rat(ECHA) Skin : LD50 980mg/kg Rabbit(HSDB) Inhalation : Vapors LC50 16000ppm 4hr Rat(ECB IUCLID)
◦Serious skin corrosive / irritation	Skin irritation test on the rabbit Result: non-irritating(ECHA)
◦Serious eye damage / irritation	Irritating to eyes and may cause damage to eye tissue.(ECHA)
◦Respiratory sensitization	N/A
◦Skin sensitization	N/A
◦Carcinogenicity	ACGIH (A4): Not classified as a human carcinogen due to insufficient data
◦Germ cell Mutagenicity	Test results of micronucleus test : positive(ECHA)
◦Reproductive toxic	N/A
◦Specific target organ toxicity (single exposure)	Liver, kidney, central nervous system disorders(NIOSH)
◦Specific target organ toxicity (repeated exposure)	Central nervous system abnormalities, heart or cardiovascular abnormalities, kidney abnormalities, liver abnormalities(NIOSH)
◦Aspiration hazard	N/A

Section 12 – ECOLOGICAL INFORMATION

1. Aquatic and Terrestrial eco toxicity	Fish toxicity : LC50 > 100mg/l 96hr(ECHA, GLP OECD Guideline) Invertebrate toxicity : N/A 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 of in accordance with Waste Management Law
2. Waste warning	Dispose prohibited substances and waste separately from others.

Section 14 – TRANSPORT INFORMATION

1. UN No.	1648
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2. Proper shipping Name	Acetonitrile
3. Hazard class	3(Flammable substance)
4. Packing group	II
5. Marine pollutant	N/A
6. Particular safety Measures for transportation	Fire emergency : F-E Emergency measures RELEASE : S-D

Section 15 – REGULATORY INFORMATION

1. Occupation safety and health acts	Standard material of exposure Test material of working environment (Test period; 6months) Hazardous material of administration objective Special diagnosis material of health (Diagnosis period; 12months)
2. Chemical Substances Control Act	Non-described
3. National law of Safety management of hazardous material	4 Class 1 Petroleum Water-soluble liquid 400L
4. National law of management of Wastes	Designated Waste
5. Other domestic and foreign law	EU classification information (confirmed classification result): F; R11Xn; R20 / 21 / 22Xi; R36 EU classification information (Risk phrases): R11, R20 / 21/22, R36 EU classification information (Safety phrases): S1 / 2, S16, S36 / 37

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 ECHA, ECB IUCLID, HSDB, NIOSH
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1. The 1st edition	2002.07.30
2. Revision and The final revision	13 / 2019.08.26

. Other references

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