

## 1. Product and company identification

### 1.1. Product Name

Product form	: Substance
Trade name	: Acrylonitrile
Chemical name	: Acrylonitrile
CAS-No.	: 107-13-1
Type of product	: Feed materials, Intermediates
KECI-No.	: KE-29393
Serial number	: 97-1-170
SRPA-No.	: 24
Product group	: Raw material
Formula	: C3H3N
Synonyms	: 2-Propenenitrile

### 1.2. Recommended use of the chemical and restrictions on use

#### 1.2.1. Recommended use

Use Categories : 01 - Feed materials, Intermediates.

Recommended use : Feed materials, Intermediates.

#### 1.2.2. Restrictions on use

### 1.3. Supplier information

- Manufacturer	
Company	: Tongsuh Petrochemical Corp.,LTD.
Address	: 108-70 Sapyung-ro, Nam-gu, Ulsan
Tel.	: 052-259-7691, 052-260-0178
Emergency telephone number	: 052-259-7691

## 2. Hazards identification

### 2.1. Hazard Classification

Flammable liquids, Category 2	H225
Acute toxicity (oral), Category 3	H301
Acute toxicity (dermal), Category 3	H311
Acute toxicity (inhalation), Category 2	H330
Acute toxicity (inhalation:dust,mist), Category 4	H332
Skin corrosion/irritation, Category 1	H314
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Carcinogenicity, Category 1	H350
Specific target organ toxicity - Single exposure, Category 3, Respiratory tract irritation	H335
Hazardous to the aquatic environment – Acute Hazard Not classified	
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

### 2.2. Label elements including precautionary statements

#### 2.2.1. Hazard pictograms (GHS KR)



#### 2.2.2. Signal word (GHS KR)

Danger.

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### 2.2.3. Hazard statements (GHS KR)

H225 - Highly flammable liquid and vapour  
H301+H311 - Toxic if swallowed or in contact with skin  
H314 - Causes severe skin burns and eye damage  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H330 - Fatal if inhaled  
H332 - Harmful if inhaled  
H335 - May cause respiratory irritation  
H350 - May cause cancer  
H411 - Toxic to aquatic life with long lasting effects

### 2.2.4. Precautionary statements (GHS KR)

#### Precaution:

P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat/hot surfaces/sparks/open flames/other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground 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.  
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing should not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P284 - Wear respiratory protection.

#### Treatment:

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor/...  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302+P352 - IF ON SKIN: Wash with plenty of water/...  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.  
P308+P313 - IF exposed or concerned: Get medical advice/attention.  
P310 - Immediately call a POISON CENTER/doctor/...  
P312 - Call a POISON CENTER/doctor/... if you feel unwell.  
P320 - Take urgent ... treatment.  
P321 - Take ... treatment.  
P330 - Rinse mouth.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P361+P364 - Take off all contaminated clothing immediately and wash it before reuse.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P363 - Wash contaminated clothing before reuse.  
P370+P378 - In case of fire: Use ... to extinguish.  
P391 - Collect spillage.

#### Storage:

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.

#### Disposal:

P501 - Dispose of contents/container according to waste related regulations.

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### 2.3. Other Hazard which are not included in the classification criteria

Not applicable

## 3. Composition/information on ingredients

Product form : Substance

Substance name	Other Names	CAS-No. and Identifier number	Concentration (%)
Acrylonitrile	2-Propenenitrile	CAS-No.: 107-13-1 KECI-No.: KE-29393	≥ 99.5

## 4. First-aid measures

### 4.1. Eye contact

Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Call a physician immediately.

### 4.2. Skin contact

Rinse skin with water/shower.  
Take off immediately all contaminated clothing.  
Call a physician immediately.

### 4.3. Inhalation

Remove person to fresh air and keep comfortable for breathing.  
Call a physician immediately.  
Call a doctor.

### 4.4. Ingestion

Rinse mouth.  
Call a physician immediately.  
Do not induce vomiting.

### 4.5. Indication of immediate medical attention and notes for physician

Self protection of the first-aider : First-aiders should pay attention to their own protection and use the recommended personal protective equipment (see section 8).  
Other medical advice or treatment : Treat symptomatically.

## 5. Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray.  
Dry powder.  
Foam.  
Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.  
Explosion hazard : No direct explosion hazard.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location.  
Do not enter fire area without proper protective equipment, including respiratory protection.

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Protection during firefighting : Do not attempt to take action without suitable protective equipment.  
Self-contained breathing apparatus.  
Complete protective clothing.

### 6. Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Wear recommended personal protective equipment.  
No open flames, no sparks, and no smoking.  
Only qualified personnel equipped with suitable protective equipment may intervene.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Do not attempt to take action without suitable protective equipment.  
For further information refer to section 8: "Exposure controls/personal protection".  
Evacuate unnecessary personnel.  
Stop leak if safe to do so.

#### 6.2. Environmental precautions and protective procedures

Avoid release to the environment.  
Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

Absorb spilled material with sand or earth.  
Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.  
Stop leak without risks if possible.  
Take up liquid spill into absorbent material.  
Notify authorities if product enters sewers or public waters.  
Dispose of materials or solid residues at an authorized site.

### 7. Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Ground/bond container and receiving equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Flammable vapours may accumulate in the container.  
Use explosion-proof equipment.  
Wear personal protective equipment.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Take all necessary technical measures to avoid or minimize the release of the product on the workplace.  
Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers.  
Provide local exhaust or general room ventilation.  
Floors, walls and other surfaces in the hazard area must be cleaned regularly.  
Do not get in eyes, on skin, or on clothing.  
Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately.  
Wash contaminated clothing before reuse.  
Contaminated work clothing should not be allowed out of the workplace.  
Do not eat, drink or smoke when using this product.  
Always wash hands after handling the product.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

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### 7.2. Conditions for safe storage

Technical measures	: Ground/bond container and receiving equipment.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.
Packaging materials	: Always store product in container of same material as original container.

## 8. Exposure controls & personal protection

### 8.1. Control parameters (e.g. occupational exposure limit values, biological limit values)

Acrylonitrile (107-13-1)	
Korea - Occupational Exposure Limits	
Local name	아크릴로니트릴 (시안화 비닐) # Acrylonitrile (Vinyl cyanide)
ISHA OEL TWA	2 ppm
Remark (KR)	발암성 1B, Skin # Carcinogenicity 1B, Skin
Regulatory reference	고용노동부고시 제2020-48호 # MOEL Public Notice. No. 2020-48

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

### 8.3. Personal protection equipment

#### Personal protective equipment

Wear recommended personal protective equipment.

#### Respiratory protection

[In case of inadequate ventilation] wear respiratory protection.

#### Eye protection

Safety glasses

#### Hand protection

Protective gloves

#### Skin and body protection

Wear suitable protective clothing

#### Personal protective equipment symbol(s):



## 9. Physical and chemical properties

a) Appearance	: No data available
Physical state	: Liquid
Colour	: Colourless.
b) Odour	: Light peach scent.
c) Odour threshold	: 21.6 ppm
d) pH	: 0 (6 – 7.5) (5% solution)
e) Melting / freezing point	: -83.5 °C <변역 누락> / -83.5 °C <변역 누락>

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f) Initial boiling point and boiling range	: 77.3 °C
g) Flash point	: 0 °C
h) Evaporation rate	: 4.5 Butyl acetate = 1
i) Flammability (solid, gas)	: Not applicable.
j) Upper / lower flammability or explosive limits	: 3 – 17 Vol-%
k) Vapour pressure	: 11.5 kPa
l) Solubility	: Solubility in water: 83 g/l
m) Vapour density	: 1.8 (air=1)
n) Relative density	: 0.806
o) Partition coefficient n-octanol/water (Log Kow)	: No data available
Partition coefficient n-octanol/water (Log Pow)	: 1.04
p) Auto-ignition temperature	: 481 °C
q) Decomposition temperature	:
r) Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.34 cP
s) Molecular mass	: 53.06 g/mol

## 10. Stability and reactivity

### 10.1. Chemical stability and Possibility of hazardous reactions

Highly flammable liquid and vapour.  
Stable under normal conditions.  
No dangerous reactions known under normal conditions of use.

### 10.2. Conditions to avoid

Avoid contact with hot surfaces.  
Heat.  
No flames, no sparks. Eliminate all sources of ignition.

### 10.3. Incompatible materials

No data available

### 10.4. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### 11.1. Information on the likely routes of exposure

Oral	: Toxic if swallowed.
Skin and eyes contact	: Acute toxicity (dermal) - Toxic in contact with skin. Skin corrosion/irritation - Causes severe skin burns. Serious eye damage/eye irritation - Causes serious eye damage. Skin sensitization - May cause an allergic skin reaction.
Inhalation	: Acute toxicity (inhalation) - Fatal if inhaled. Acute toxicity (Inhalation:dust,mist) - Harmful if inhaled.

### 11.2. Health hazards information

#### Acute toxicity (oral):

Toxic if swallowed.

#### Acute toxicity (dermal):

Toxic in contact with skin.

#### Acute toxicity (inhalation):

Fatal if inhaled.

Inhalation:dust,mist - Harmful if inhaled.

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Acrylonitrile (107-13-1)	
LD50 oral rat	81 mg/kg
LD50 dermal rat	148 – 693 mg/kg
LC50 Inhalation - Rat	1.03 mg/l/4h
LC50 Inhalation - Rat [ppm]	425 ppmv/4h
ATE KR (vapours)	1.03 mg/l/4h
ATE KR (dust,mist)	1.03 mg/l/4h

### Skin corrosion/irritation:

Causes severe skin burns.

### Serious eye damage/irritation:

Causes serious eye damage.

### Respiratory sensitization:

Not classified

### Skin sensitization:

May cause an allergic skin reaction.

### Carcinogenicity:

May cause cancer.

### Mutagenicity:

Not classified

### Reproductive toxicity:

Not classified

### STOT-single exposure:

May cause respiratory irritation.

### STOT-repeated exposure:

Not classified

### Aspiration hazard:

Not classified

## 12. Ecological information

### 12.1. Aquatic and terrestrial ecotoxicity

- Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
- Hazardous to the aquatic environment, short-term (acute) : Not classified.
- Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

Acrylonitrile (107-13-1)	
LC50 - Fish [1]	5.1 mg/l
EC50 - Crustacea [1]	2.5 mg/l
ErC50 algae	10 mg/l
Partition coefficient n-octanol/water (Log Pow)	1.04

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### 12.2. Persistence and degradability

#### Acrylonitrile (107-13-1)

Persistence and degradability	Not rapidly degradable
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### 12.3. Bioaccumulative potential

#### Acrylonitrile (107-13-1)

Partition coefficient n-octanol/water (Log Pow)	1.04
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### 12.4. Mobility in soil

#### Acrylonitrile (107-13-1)

Partition coefficient n-octanol/water (Log Pow)	1.04
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### 12.5. Other adverse effects

Ozone : Not classified  
Other adverse effects : No data available

## 13. Disposal considerations

### 13.1. Disposal method

Regional waste regulation : Disposal must be done according to official regulations.  
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Ecological waste information : The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way.  
Consider the handling and disposal of the waste as defined by the product itself.

### 13.2. Disposal precaution

Product/Packaging disposal recommendations : Disposal must be done according to official regulations.  
Sewage disposal recommendations : Disposal must be done according to official regulations.  
Additional information : Flammable vapours may accumulate in the container.  
Do not re-use empty containers.

## 14. Transport information




In accordance with UN RTDG / IMDG / IATA

UN RTDG	IMDG	IATA
<b>14.1. UN number</b>		
1093	1093	1093
<b>14.2. UN proper shipping name</b>		
ACRYLONITRILE, STABILIZED	ACRYLONITRILE, STABILIZED	Acrylonitrile, stabilized
<b>Transport document description</b>		
UN 1093 ACRYLONITRILE, STABILIZED, 3 (6.1), I, ENVIRONMENTALLY HAZARDOUS	UN 1093 ACRYLONITRILE, STABILIZED, 3 (6.1), I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS (-5°C c.c.)	UN 1093 Acrylonitrile, stabilized, 3 (6.1), I, ENVIRONMENTALLY HAZARDOUS
<b>14.3. Transport hazard class(es)</b>		
3 (6.1)	3 (6.1)	3 (6.1)

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UN RTDG	IMDG	IATA
		
<b>14.4. Packing group</b>		
I	I	I
<b>14.5. Marine pollutant</b>		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No data available		

### 14.6. Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises

No data available

## 15. Regulatory information

### 15.1. Occupational Safety and Health Act

Hazardous Substances Prohibited for Manufacturing	Not applicable	
Hazardous Substances Requiring Permission	Not applicable	
Threshold Limit Values Chemicals	Applicable	107-13-1: Acrylonitrile (Vinyl cyanide)
Hazardous Substances Below Permissible Level	Applicable	107-13-1: Acrylonitrile
Hazardous Substances Subject to Working Environment Measurement	Applicable	107-13-1: Acrylonitrile (contains above 1%)
Hazardous Substances Subject to Workers Requiring Health Examination	Applicable	107-13-1: Acrylonitrile (Examination Cycle: 6 months) (contains above 1%)
Hazardous Substances Subject to Control Substance Subject to Submission of PSM	Applicable	107-13-1: Acrylonitrile (contains above 0.1%) 107-13-1: 2-Propenenitrile; Acrylonitrile, Cyanoethylene (Manufacture · Handling · Storage: 10,000 kg)

### 15.2. Chemical Substances Control Act

Substance acutely hazardous to human health	Applicable	107-13-1: Acrylonitrile (Serial number: 97-1-170 (contains above 1%))
Substance chronically hazardous to human health	Applicable	107-13-1: Acrylonitrile (Serial number: 97-1-170 (contains above 0.1%))
Substance hazardous to the environment	Not applicable	
Restricted Substances	Not applicable	
Prohibited Substances	Not applicable	
Substances Requiring Preparation for Accident	Applicable	107-13-1: Acrylonitrile (SRPA-No. : 24 (contains above 0.1%))

### 15.3. Act on Registration and Evaluation of Chemicals (K-REACH)

Korea Existing Chemicals Inventory (KECI)	Applicable	107-13-1: 2-Propenenitrile ; Acrylonitrile, Cyanoethylene (KECI-No. : KE-29393)
Substances Subject to Intensive Control	Applicable	107-13-1: Acrylonitrile
Priority Existing Chemicals (PEC)	Applicable	107-13-1: 2-Propenenitrile ; Acrylonitrile ; Cyanoethylene (PEC-No. : 120)
CMR Substances	Not applicable	

### 15.4. Safety Control of Dangerous Substances Act

Safety Control of Dangerous Substances Act	Applicable	107-13-1: Acrylonitrile (Class 4 Flammable liquid - category 2 First class Petroleum Water-insoluble (Designated quantity: 200 liter))
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### 15.5. Wastes Control Act

Hazardous Substances in Designated wastes	Not applicable
Types of wastes	No data available

### 15.6. Other Domestic and International Regulatory Information

#### Other Domestic Regulations

Persistent Organic Pollutants(POPs) Control Act	Not applicable	
Ozone Depleting Substances(ODS)	Not applicable	
PRTR Substances	Applicable	107-13-1: Acrylonitrile (Group II)

#### EU Regulatory Information

EU Candidate list (SVHC)	Not listed on the REACH Candidate List
EU authorization list (REACH Annex XIV)	Not listed on REACH Annex XIV (Authorisation List)
EU restriction list (REACH Annex XVII)	Applicable

#### US Regulatory Information

CERCLA Section 103 (40CFR302.4)	Applicable
EPCRA Section 302 (40CFR355.30)	Applicable
EPCRA Section 304 (40CFR355.40)	Applicable
EPCRA Section 313 (40CFR372.65)	Applicable

## 16. Other information

### 16.1. Information source and references

This MSDS is prepared based on KOSHA, NITE, ESIS, NLM, SIDS, IPCS, NCIS, etc.

### 16.2. Issue date

6/1/2004

### 16.3. Revision number and Revision date

Version	:	19.1
Revision date	:	4/17/2026

### 16.4. Others

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.