

Safety Data Sheet(SDS)

1. Identification of the substance/mixture and of the company/undertaking

- 1) Product identifier : ACETON
- 2) Relevant identified uses of the substance or mixture and uses advised against
 - Relevant identified uses

 - Uses advised against
- 3) Supplier information
 - Company name [Manufacture]
Company : LGC Yeosu (Yongseong)
Address : 58, Yeosusandan 4-ro, Yeosu-si, Jeollanam-do, Republic of Korea

Emergency number : 82-61-689-3614/3615

2. HAZARD IDENTIFICATION

- 1) Hazard classification
 - Flammable liquids Category 2
 - Specific target organ toxicity single exposure Category 3(Narcotic effects)
 - Aspiration hazard Category 2

- 2) Allocation label elements

Hazard pictograms



Signal word

- DANGER

Hazard statements

H225 Highly flammable liquid and vapour
 H305 May be harmful if swallowed and enters airways
 H336 May cause drowsiness or dizziness

Precautionary statements

- Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 Keep container tightly closed.
 P240 Ground and bond container and receiving equipment.
 P241 Use facilities such as explosion-proof electricity, ventilation and lighting.
 P242 Use nonsparking tools.
 P243 Take action to prevent static discharges.
 P261 Avoid breathing mist/vapours/spray.
 P271 Use only outdoors or in a wellventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

- Response

P301+P310 If you swallow: immediately receives medical institutions and doctors' consultation.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 If you feel uncomfortable, receive medical institutions and doctors' consultation.
 P331 Do NOT induce vomiting.
 P370+P378 In case of fire: Use carbon dioxide, Water, Alcoholic to extinguish.

- Storage

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

- Disposal

P501 Dispose of contents and containers according to the legislation of the waste

3) Other hazards

o Product NFPA Level

Health	Flamm ability	Reactivity
1	3	0

(※ 0 = Insufficient , 1 = Slightly , 2 = ordinary , 3 = Highness , 4 = Very high)

3. Composition/Information on ingredients

Components	Common name	CAS No.	PCT(wt%)
Acetone	Acetone	67-64-1	100

4. FIRST AID MEASURES

1) Following eye contact

- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Seek immediate medical assistance.

2) Following skin contact

- For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.
- For minor skin contact, avoid spreading material on unaffected skin.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.
- Seek immediate medical assistance.
- Wash skin with soap and water.

3) Following inhalation

- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Keep victim warm and quiet.
- Move to fresh air.
- Seek immediate medical assistance.

4) Following ingestion

- Seek immediate medical assistance.

5) Advice to physician

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE FIGHTING MEASURES

1) Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media
 - CO₂.
 - Dry chemical.
 - For mixtures containing alcohol or polar solvent: Alcohol-resistant foam.
 - Regular foam.
 - Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

- Use dry sand or earth to smother fire.
- Water spray.
- Unsuitable extinguishing media
 - Direct water.

2) Special hazards arising from the substance or mixture

- Pyrolytic product
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Risk of fire and explosion
 - Can form explosive mixtures at temperatures at or above the flashpoint.
 - Containers may explode when heated.
 - HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
 - May violently polymerize and result in fire and explosion.
 - Runoff may create fire or explosion hazard.
 - Some may burn but none ignite readily.
 - Vapor explosion hazard indoors, outdoors or in sewers.
 - Vapors may form explosive mixtures with air.
 - Vapors may travel to source of ignition and flash back.
 - When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Other
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Inhalation or contact with material may irritate or burn skin and eyes.
 - Vapors may cause dizziness or asphyxiation without warning.

3) Special protective equipment for firefighters

- Cautions ; Most of liquids are lighter than water.
- Dike fire-control water for later disposal; do not scatter the material.
- Evacuate area and fight fire from a safe distance.
- Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
- Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks: Do not direct water at source of leak or safety devices; icing may occur.
- Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas

- (sewers, basements, tanks).
- Move containers from fire area if you can do it without risk.
- Rescuers should put on appropriate protective gear.
- Substance may be transported hot.
- Substance may be transported in a molten form.

6. ACCIDENTAL RELEASE MEASURES

1) Health considerations and protective equipment

- A vapor suppressing foam may be used to reduce vapors.
- All equipment used when handling the product must be grounded.
- Clean up spills immediately, observing precautions in Protective Equipment section.
- Cover with plastic sheet to prevent spreading.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Please note that materials and conditions to be avoided.
- Stop leak if you can do it without risk.
- The very fine particles can cause a fire or explosion, eliminate all ignition sources.

2) Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.
- Runoff may cause pollution.

3) For cleaning up

- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.
- Dike and collect water used to fight fire.
- Large Spill: Dike far ahead of liquid spill for later disposal.
- Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

1) Precautions for safe handling

- All equipment used when handling the product must be grounded.
- Avoid breathing vapors from heated material.
- Caution: Heat.
- DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION;.
- Do not enter storage area unless adequately ventilated.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

- Handling refer to engineering control/personal protection section.
- Loosen closure cautiously before opening.

- Measure atmospheric oxygen concentration and ventilate the area during the operation since low-closed area can cause oxygen deficiency.
- Please note that materials and conditions to be avoided.
- Use care in handling/storage.
- Use only in a well-ventilated area.

2) Conditions for safe storage (including any incompatibilities)

- Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1) Chemical exposure limits, Biological exposure standard

Components	Occupational exposure limits	ACGIH	Biological standard
Acetone	TWA : 500.0ppm STEL : 750.0ppm	TWA : 250ppm STEL : 500ppm	25 25 Ns

2) Appropriate engineering controls

- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

3) Personal protection equipment

- Respiratory protection
 - If high frequency of use or exposure, wear air respirator.
 - Wear breathing protection, which needs a confirmation from the Korea Occupational Safety and Health Agency.
- Eye protection
 - Wear suitable protective goggles and face shields.
- Hand protection
 - Wear suitable protective gloves.
- Body protection
 - Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No data available
Physical state	Liquid
Colour	Colorless
Odour	Sweet Smell
Odour threshold	No data available
pH	5 (20 °C)

Melting point/freezing point	-95 °C
Initial boiling point and boiling range	56.1 °C (760 mmHg)
Flash point	-18 °C
Evaporation rate	No data available
Flammability(solid, gas)	No data available
Upper/lower flammability or explosive limits	13 / 2.2%
Vapour pressure	240 hPa (20 °C)
Solubility(ies)	1000000 mg / ℓ (25 °C)
Vapour density	No data available
Relative density	0.79
n-octanol/water partition coefficient	No data available
Auto ignition temperature	465 °C
Decomposition temperature	No data available
Viscosity	0.00034 m ² / s (40 °C 2))
Molecular weight(mass)	58.08

10. STABILITY AND REACTIVITY

1) Stability and hazardous reactivity

- Can form explosive mixtures at temperatures at or above the flashpoint.
- Containers may explode when heated.
- Fire may produce irritating, corrosive and/or toxic gases.
- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
- Inhalation or contact with material may irritate or burn skin and eyes.
- May violently polymerize and result in fire and explosion.
- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

- Runoff may create fire or explosion hazard.
- Some may burn but none ignite readily.
- Vapor explosion hazard indoors, outdoors or in sewers.
- Vapors may cause dizziness or asphyxiation without warning.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.

2) Conditions to avoid

- Heat, contamination.
- Heat.
- Ignition source(heat, spark, flame, etc.).

- 3) Incompatible materials
 - Combustibles, reducing material.
- 4) Hazardous decomposition products
 - Corrosive/toxic fume.
 - Irritating, corrosive and/or toxic gas.

11. TOXICOLOGICAL INFORMATION

1) Exposure route information

- Inhalation
 - Not applicable
- Skin Contact
 - Not applicable
- Eye Contact
 - Not applicable
- Ingestion
 - May be harmful if swallowed and enters airways

2) Health hazard information

- Acute toxicity
 - Acute toxicity(Oral)
LD50 5800 mg / kg experimental species: Rat, Source: ECHA
 - Acute toxicity(Dermal)
LD50 > 7400 mg / kg experimental species: Rabbit, Source: ECHA
 - Acute toxicity(Inhalation:Gases)
No data available
 - Acute toxicity(Inhalation:Vapours)
LC50 76 mg / l 4 hr experiment Species: Rat, Source: ECHA
 - Acute toxicity(Inhalation:Dust/mist)
No data available
- Skin corrosion/irritation
Using guinea pig skin corrosion / irritation test, no irritation index = 0 erythema, edema index = 0, Source: ECHA
- Serious eye damage/eye irritation
That the serious eye damage / irritation test results, using a mild irritant Rabbit. Impact based on the Draize scores
Drai index is fully Restored Maximum mean total score MMTS = 19.1, corneal index = 25, index = 3.8 iris, conjunctival
index = 9.2 OECD TG 405 within seven days, Source: ECHA
- Respiratory sensitization

No data available

○ Skin sensitization

Skin sensitization test with guinea pigs, subject to the result, skin sensitization not observed, Source: ECHA

○ Carcinogenicity

A4 (ACGHI), Source: ACGHI

○ Germ cell mutagenicity

Micronucleus test negative SIDS 1999, EHC 207 1998 examiners returned with microbial mutation test, metabolic disorders with an activation system applies whether or not the voice OECD TG 471, In vitro mammalian cell culture regardless of chromosomal matter tests, metabolic activation system presence without voice OECD TG 473, the gene using in vitro cell culture mutagenicity tests results, when metabolic activation system voice OECD TG 476 in vivo hamster male / female, micronucleus test using mouse male / female voice reverse mutation test negative, China chromosome analysis using the modified hamster ovary cells negative results, in vivo micronucleus test in Chinese hamster voice. Return vitro using microbial mutation test negative OECD TG 471, voice vivo mammalian erythrocyte micronucleus test using the OECD TG 474, Source: NITE, ECHA, HSDB, OECD SIDS

○ Reproductive toxicity

- Rats (male / female) Reproduction toxicity tests intended for the results, appears sperm vitality decrease, more than increasing spermatogenesis, tail epididymis and Obituaries a weight reduction (NOAEL = 900 mg / kg bw / day, LOAEL = 1,700 mg / kg bw / day), subject to the mouse developmental toxicity tests, fetal weight reduction late re-appear in high concentrations to apply to the incidence of the increase in absorption (NOAEC = 2,200 ppm, LOAEC = 6,600ppm) (OECD Guideline 414) classification the search of the effects observed., Source: ECHA

○ Specific target organ toxicity single exposure

When someone in the nose, airway, bronchial irritation, high-concentration exposure headache, dizziness, exhaustion of the bridge, causing blackouts. ACGIH 2001, ECH 207 1998 TARGET ORGANS: Eyes, skin, respiratory, central nervous system NIOSH Odor threshold = 10, 20 minutes exposure of odor index w-28%, c-46% reduction, stimulation index: c-30% reduction, prayer, nasal irritation, headache, drowsiness nasal irritation threshold 10000ppm25000mg / m3; NOAEC 5000ppm24000mg / m3, Source: NITE, NIOSH, ECHA

○ Specific target organ toxicity repeated exposure

90 days Armando Bible subscribe property test results, testicles to male rats, kidney and hematopoietic system 500ppm 6 hours / day, 6 days subject to being a significant reduction in the significant increase and neutrophil phagocytosis of white blood cells eosinophils observed rats in the exposed group weak toxicity to gyeomdoem NOAEL = 10,000 ppm900 mg / kg bw / d, LOAEL = 90 il sub-chronic toxicity test results, various indicators on the hematology, serum activity targeting 20,000ppm1,700 mg / kg bw / d OECD TG 408 in rats increase, being observed an increase in relative liver and kidney weights. NOEL = 1% 900 mg / kg / 13 ju suction repeated using rats day toxicity test results, the highest concentration 4000ppm9500mg / m3 to the nervous system, whether the work, not affected by such observed. NOAEL = 9500mg / m3 = 1000mg / kg bw / day based classification Not classified than only the toxic effects observed due to repeated high doses, Source: ACGIH, NITE, ECHA, OECD SIDS,

○ Aspiration hazard

Tie viscosity 0.426 mm² / s calculated ketones and tie viscosity 0.426 mm² / s calculated, Source: Tie viscosity 0.426 mm² / s calculated ketones and tie viscosity 0.426 mm² / s calculated

12. ECOLOGICAL INFORMATION

1) Aquatic toxicity

- Fish

LC50 5540 mg / l 96 hr *Oncorhynchus mykiss* (OECD Guideline 203), Source: ECHA

- Crustacea

LC50 8800 mg / l 48 hr *Daphnia pulex* (), Source: ECHA

- Aquatic algae

EC50 11798 mg / l 5 day *Skeletonema costatum* (), Source: ECHA

2) Persistence and degradation

- n-octanol water partition coefficient

-0.24 log Kow (), Source: ICSC

- Degradation

(BOD 5: 1.85 g O₂ / g test mat, COD: 1.92 g O₂ / g test mat, BOD₅ * 100 / COD: 96%, APHA Standard methods No.219 1971), Source: ECHA

- Biodegradation

62% 5 day (OECD TG 301B), Source: ECHA

3) Bioaccumulative potential

No data available

4) Mobility in soil

No data available

5) Other adverse effects

Crustaceans: 28d NOEC *Daphnia magna* = 1,106 - 2,212 mg / L, birds: on NOEC *Entosiphon sulcatum* = 28 mg / L, OECD SIDS water: 8 d TTNOEC *Microcystis aeruginosa* = 530 mg / L nominal ECHA crustaceans: NOEC *Daphnia magna* = 1660 mg / L, birds insoluble water solubility = 1.00 * 106mg / LPHYSPROP Database, 2005, and acute toxic NITE, Source: ECHA, HSDB, OECD SIDS, NITE

13. DISPOSAL CONSIDERATIONS

1) Disposal methods

- Every commercial waste producer shall either treat wastes generated from his/her place of business by him/herself or commission the treatment of such wastes to a person who has license for a waste treatment business under Article 26(3), a person who recycles of such wastes under Article 44(2), a person who has installed and operates a waste disposal facility under Article 4 or 5, a person who has completed the

- registration of a business of discharging wastes into the sea under Article 18 of the Marine Environment Management Act.

2) Precautions (including disposal of contaminated container of package)

- Do not allow spill material to enter sewers, storm water drains, soil, etc.

14. TRANSPORT INFORMATION

- 1) UN No. : 1090
 - 2) Proper shipping name : ACETONE
 - 3) Class or division : 3
 - 4) Packing group : II
 - 5) Marine pollutant : Not applicable
 - 6) Special safety response for transportation or transportation measure :
 - Emergency measures in case of fire : F-E
 - Emergency measures in the effluent : S-D
- ADR
 - Tunnel restriction code : D/E
 - IMDG
 - Marine pollutant : Not applicable
 - Air transport(IATA)
 - UN No. : 1090
 - Proper shipping name : ACETONE
 - Class or division : 3
 - Packing group : II

15. REGULATORY INFORMATION

- 1) Occupational Safety and Health Act in Korea
PRODUCT : Not applicable
 - Environment measure substance(more than 1%), Hazardous Substances Requiring Management(more than 1%), Special medical examination material(more than 1%), Substance exposure limits
- 2) Toxic Chemical Control Act in Korea
PRODUCT : Not applicable
 - Not applicable
- 3) Safety Control of Dangerous Substances Act in Korea
PRODUCT : Not applicable
 - Class 4) First petroleum (water soluble)(Designated quantity:400ℓ)

4) Wastes Control Act in Korea

PRODUCT : Not applicable

- Designated waste

- In case of disposal, it must be disposed of in accordance with Article 13 of the Waste Management Act.

5) Other regulations in KOREA and Abroad regulations

- ETC regulation

- EU. GHS Classification. CLP Reg. No 1272/2008 of 16 Dec 2008, Annex VI, Table 3.1, List of harmonized classification & labelling

- CERCLA Hazardous Substances [other than radionuclides] (40 CFR 302.4) (as amended by 75 FR 78918, Dec. 17, 2010), OSHA Hazard Communication Standard: On One of the Floor Lists of the OSHA HCS (29 CFR 1910.1200)

- PERSISTENT ORGANIC POLLUTANTS CONTROL ACT

- Not applicable

- Act on the registration and evaluation of chemicals

- Existing Commercial Chemical Substances

16. OTHER INFORMATION

1) Reference

- ACGIH, NITE, ECHA, OECD SIDS,

- ChemIDPlus

- ECHA

- ECHA, HSDB, OECD SIDS, NITE

- HSDB

- ICSC

- Ministry of Employment and Labor

- Ministry of Environment

- NITE, ECHA, HSDB, OECD SIDS

- NITE, NIOSH, ECHA

- SRC

- Tie viscosity 0.426 mm² / s calculated ketones and tie viscosity 0.426 mm² / s calculated

- pubchem

2) Print date : 2022-04-20

3) Revision date

- Revised date count : 0

- Last revised date : 2022-04-20

○ Last revised history :

4) Other