

C10 Aromatic Solvent

1. identification

A. Product Name : C10 Aromatic Solvent

B. Recommended use of the chemical and restrictions on use

- o Recommended use : Solvents
- o Restrictions on use : Used for only recommended uses.

C. Manufacturer/Supplier

1) Supplier

GODO CHEMICAL Corporation			
#1017, 10F Suseo Hyundai Ventureville 10 Bamgogae-ro 1-gil Gangnam-gu Seoul 06349 Korea			
Telephone	(82)2 417 2555~6	Fax	82(2) 417 2557

2. hazard identification

A. GHS Classification

1) Physical Hazards Hazards

- Flammable liquids : Category 4

2) Health Hazards

- Skin corrosion/irritation : Category 2
- Carcinogenicity : Category 2
- Specific target organ toxicity(Single exposure) : Category 3(Respiratory tract irritation)
- Aspiration hazard : Category 1

3) Environmental Hazards

- Acute aquatic toxicity : Category 2
- Chronic aquatic toxicity : Category 2

C10 Aromatics

B. GHS label elements

1) Hazard symbols :



2) Signal Words : Danger

3) Hazard statements :

- H227 Combustible liquid.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H401 Toxic to aquatic organisms.
- H411 Toxic to aquatic life with long lasting effects.

4) Precautionary statements :

■ 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/sparks/open flames/hot surfaces. – No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

■ Response

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P321 Specific treatment.
- P331 Do not induce vomiting.
- P332+P313 If skin irritation occurs: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.
- P370+P378 In case of fire: Use Suitable extinguishing media for extinction.
- P391 Collect spillage.



C10 Aromatics

■ 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 in accordance with local/regional/national/international regulation.

C. Other hazards which do not result in classification: (NFPA Classification)

– NFPA grade (0 ~ 4 level) : Health : 2, Flammability : 2, Reactivity : 0

3. composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS No.	Content (%)
Solvent naphtha (petroleum), heavy aromatics	C10 aromatics	64742-94-5	100

4. first aid measures

A. Eye contact

- Call emergency medical service.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

B. Skin Contact

- If on skin (or hair): Remove/Take off immediately all contaminated clothing.
- If skin irritation occurs: Get medical advice/ attention.
- Get immediate medical advice/attention.
- Remove and isolate contaminated clothing and shoes.
- In case of burns, immediately cool affected skin for as long as possible with cold water.
- Do not remove clothing if adhering to skin.
- Wash skin with soap and water.

C. Inhalation contact

- If exposed or concerned: Get medical advice / attention.
- Do not induce vomiting
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.

C10 Aromatics

D. Ingestion contact

- If swallowed: Immediately call a poison center or doctor/physician.
- Do not induce vomiting.
- May be fatal if swallowed and enters airways.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Exposures require specialized first aid with contact and medical follow-up.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

F. Notes to physician

- Notify medical personnel of the substance and have them take appropriate protective measures.

5. fire fighting measures

A. Suitable (Unsuitable) extinguishing media

- 1) Suitable extinguishing media : Use alcohol foam, carbon dioxide, water spray, dry sand or earth
- 2) Unsuitable extinguishing media : Not available
- 3) In case of large fire : spraying, watering

B. Specific hazards arising from the chemical

- 1) Hazardous combustion product : Carbon oxide
- 2) Fire & Explosion hazard :
 - Material may produce irritating and highly toxic gases by heat and combustion.
 - Containers may explode when heated.
 - Spilled material may create fire or explosion hazard.
 - May cause vapor explosion hazard indoors, outdoors or in sewers
 - Vapors may form explosive mixtures with air.

C. Special protective actions for firefighters

- Rescuers should put on appropriate protective gear.
- Evacuate area and fight fire from a safe distance.
- Many liquids are lighter than water.
- Most vapors are heavier than air, they will spread along ground and collect in low or confined areas.

C10 Aromatics

- Move containers from fire area if you can do it without risk.
- Fire involving Tanks; Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks; Always stay away from tanks engulfed in fire.
- Fire involving Tanks; For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn

6. additional release measures

A. Personal precautions, protective equipment and emergency procedures

- Avoid breathing gas/mist/vapours/spray.
- Clean up spills immediately, observing precautions in Protective Equipment section.
- Do not touch or walk through spilled material.
- Keep unnecessary and unprotected personnel from entering.
- Eliminate all ignition sources.
- All equipment used when handling the product must be grounded.
- Stop leak if you can do it without risk.
- Please note that there are materials and conditions to avoid.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Dike for later disposal.
- Absorb spills with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Wipe contaminated areas with water and detergent.
- Notification to central government, local government when emissions at least of the standard amount.
- Dispose of waste in accordance with local regulation.
- Prevent the influx to waterways, sewers, basements or confined spaces

C10 Aromatics

7. handling and storage

A. Precautions for safe handling

- Do not handle until all safety precautions have been read and understood.
- Wash thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Follow all SDS/label precautions even after container is emptied because they may retain product residues.
- Use carefully in handling/storage.
- Loosen closure cautiously before opening.
- Avoid prolonged or repeated contact with skin.
- Please note that there are materials and conditions to avoid.
- You need measurement of air concentration and ventilation in low, closed and confined areas due to lack of oxygen.

B. Conditions for safe storage, including any incompatibilities

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Store in a well-ventilated place. Keep cool.
- Please pay attention to incompatibilities materials and conditions to avoid.

8. exposure controls/personal protection

A. Exposure limits

- 1) ACGIH TLV : Not regulated
- 2) OSHA PEL : Not regulated

B. Engineering controls

- A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

C. Personal protective equipment

1) Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.



C10 Aromatics

- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
- 2) Eye protection
- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.
- 3) Hand protection
- Wear appropriate chemical resistant glove.
- 4) Skin protection
- Wear appropriate chemical resistant protective clothing.
- 5) Others: Not available

9. physical and chemical properties

- A. Appearance :
- State : Liquid
 - Color : Colorless
- B. Odor : Specific hydrocarbon smell
- C. Odor Threshold : Not available
- D. pH : Not available
- E. Melting point/Freezing point : Not available
- F. Boiling point/range : 175~210°C
- G. Flash point : 64°C
- H. Evaporation rate : Not available
- I. Flammability (solid, liquid): Not applicable
- J. Flammability Limit (lower/upper) : 0.9/7.0 vol%
- K. Vapor pressure : 0.07mmHg(37.8°C)
- L. Solubility in water : below 0.1wt% of water
- M. Vapor density : >1(air=1)
- N. Specific gravity : 0.8999(15°C)
- O. Partition Coefficient(n-Octanol/water) : Not available
- P. Auto-ignition temperature : 450°C
- Q. Thermal decomposition : Not available
- R. Viscosity : 0.88 cst(20°C)
- S. Molecular weight : Not available

C10 Aromatics

10. stability and reactivity

A. Chemical Stability

- Stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

C. Conditions to avoid

- Avoid contact with heat, sparks, flame or other ignition sources.

D. Incompatible materials : Oxidizing agent

E. Hazardous decomposition products

- Thermal decomposition product : Carbon oxides
- Irritating, corrosive and toxic gases

11. toxicological information

A. Information on the likely routes of exposure

- Respiratory tracts :
 - May be fatal if swallowed and enters airways.
 - May cause respiratory irritation.
- Oral : Not available
- Eye·Skin : Causes skin irritation.

B. Delayed and immediate effects and also chronic effects from short and long term exposure

1) Acute toxicity

- Oral : Not classified
 - [Solvent naphtha (petroleum), heavy aromatics] : Rat LD50 > 5,000mg/kg bw(read-across, CAS No. 68333-23-3)(OECD TG 420, EPA OTS 798.1175, GLP)
- Dermal : Not classified
 - [Solvent naphtha (petroleum), heavy aromatics] : Rabbit LD50 > 2,000mg/kg bw, No death (read-across, CAS No. 68333-23-3)(EPA OTS 798.1100, OECD TG 402, GLP)
- Inhalation : Not classified
 - [Solvent naphtha (petroleum), heavy aromatics] : Rat LC50(4h) > 5.28mg/L air No death (read-across, CAS No. 8008-20-6)(OECD TG 403, GLP)

2) Skin corrosion/irritation : Category 2

- [Solvent naphtha (petroleum), heavy aromatics] : In skin irritation test with rabbits, irritation did not fully recovered within 10 days. (Erythema score =3.46, edem score=2.33)(readacross)(EPA Guidelines in FR Vol. 44, No. 145, pgs, GLP)

C10 Aromatics



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- 3) Serious eye damage/irritation : Not classified
- [Solvent naphtha (petroleum), heavy aromatics] : No irritation was observed in eye irritation test with rabbits. (GLP)(Cornea score: 0, Iris score: 0, conjunctiva score: 0) (read-across, CAS No. 68333-23-3)(EPA OTS 798.4500, GLP)
- 4) Respiratory sensitization : Not available
- 5) Skin sensitization : Not classified
- [Solvent naphtha (petroleum), heavy aromatics] : Not sensitizing (Guinea Pig) (read-across, CAS No. 68333-23-3)(EPA OTS 798.4100, OECD TG 406, GLP)
- 6) Carcinogenicity : Category 2 (KOREA-ISHL : 2, ACGIH : A4, NTP : R, IARC : 2B, EU CLP : 2, read-across : Containing 3 to 10% of Naphthalene; CAS No.91-20-3)
- KOREA-ISHL : Not available
 - OSHA : Not available
 - NTP : Not available
 - IARC(GROUP) : Not available
 - ACGIH : Not available
 - EU CLP : Not available
- 7) Germ cell mutagenicity : Not classified
- [Solvent naphtha (petroleum), heavy aromatics] : In vitro - Gene mutation test using mammalian cultured cells (read-across, CAS No. 64742-81-0) (OECD TG 476, GLP), Reverse mutation test using microorganisms (read-across, CAS No. 8008-20-6) (OECD TG 471), regardless of metabolic activation system : Negative In vivo - Chromosome aberration test using mammalian bone marrow cells (read-across, CAS No. 64742-81-0) (OECD TG 475, GLP), Dominant lethal test using rodent (read-across) (OECD TG 478) : Negative
- 8) Reproductive toxicity : Not classified
- [Solvent naphtha (petroleum), heavy aromatics] : As a result of the dermal reproduction development toxicity screening test using the rat, this substance does not cause reproductive or developmental toxicity. (NOAELP, reproductive toxicity \geq 494mg/kg bw/day, NOAELF1, developmental(offspring) toxicity \geq 494mg/kg bw/day)(read-across, CAS No. 64742-81-0) (OECD TG 421)
- 9) STOT-single exposure : Category 3(Respiratory tract irritation)
- [Solvent naphtha (petroleum), heavy aromatics] : In acute inhalation toxicity study with rats, exhibited dyspnea, gasping and decreased activity during exposure. After 4 hours, exhibited clear runny nose, dyspnea, clumpy hairs. (LC50(4h) $>$ 4.3mg/L air)(read-across)(OECD TG 403, GLP)
- 10) STOT-repeated exposure : Not classified
- [Solvent naphtha (petroleum), heavy aromatics] : Subacute inhalation toxicity test using rats, no specific clinical symptoms were observed. (NOAEC \geq 24mg/m³) (read-across, CAS No. 64742-81-0)(OECD TG 412, GLP)



C10 Aromatics

11) Aspiration hazard : Category 1

- [Solvent naphtha (petroleum), heavy aromatics] : hydrocarbons, viscosity : 1-2.4cSt (40 °C)
(read-across)

12. ecological information

A. Ecotoxicity

- Acute toxicity : Category 2
- Chronic toxicity : Category 2

1) Fish :

- [Solvent naphtha (petroleum), heavy aromatics] : 96h LL50((Oncorhynchus mykiss))=2-5 mg/L semi-static (OECD TG 203, GLP)

2) crustacean :

- [Solvent naphtha (petroleum), heavy aromatics] : 48h EL50(Daphnia magna)=3-10 mg/L static (OECD TG 202, GLP), 21d LOEL(Daphnia magna)=0.48 mg/L semi-static (read-across) (OECD TG 211, GLP)

3) Algae :

- [Solvent naphtha (petroleum), heavy aromatics] : 72h EL50(Raphidocelis subcapitata)=1-3 mg/L, static (OECD TG 201, GLP), 72h LOEL(72h)=1 mg/L, static (OECD TG 201, GLP)

B. Persistence and Degradability

1) Persistence :

- [Solvent naphtha (petroleum), heavy aromatics] : Expected to be low persistence because Log Kow is less than 4. (Log Kow=3.71 (Estimate))

2) Degradability : Not available

C. Bioaccumulation potential

1) Biodegradation :

- [Solvent naphtha (petroleum), heavy aromatics] : 61% biodegradation was observed after 28 day (OECD TG 301F).

2) Bioaccumulative potential :

- [Solvent naphtha (petroleum), heavy aromatics] : Expected to be low bioaccumulative potential because BCF is less than 500. (BCF = 69.88(Estimate))

D. Mobility in soil :

- [Solvent naphtha (petroleum), heavy aromatics] : Expected to be low potential for adsorption to the soil (Koc=730.6 (Estimate))

E. Other adverse effects : Not available

C10 Aromatics

13. disposal considerations

A. Disposal method :

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Disposal instruction :

- The user of this product must dispose by oneself or entrust to waste disposer or person who other's waste recycle and dispose or person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. transport information

A. UN No. (IMDG) : UN 3082

B. Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.

C. Hazard Class : 9

D. IMDG Packing group : III

E. Marine pollutant : Applicable

F. Special precautions for user related to transport or transportation measures

- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S S-F (Water-soluble marine pollutants)

15. regulatory information

A. Additional national and/or international regulatory information

- 1) POPs Management Law : Not regulated
- 2) Information of EU Classification
 - Classification : H304
- 3) U.S. Federal regulations
 - OSHA PROCESS SAFETY (29CFR1910.119) : Not regulated
 - CERCLA Section 103 (40CFR302.4) : Not regulated
 - EPCRA Section 302 (40CFR355.30) : Not regulated
 - EPCRA Section 304 (40CFR355.40) : Not regulated
 - EPCRA Section 313 (40CFR372.65) : Not regulated
- 4) Rotterdam Convention listed ingredients : Not regulated
- 5) Stockholm Convention listed ingredients : Not regulated
- 6) Montreal Protocol listed ingredients : Not regulated

C10 Aromatics

16. other information

A. Reference

- TSCA; http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/searchbylis/search.do
- EU Regulation 1272/2008
- TOMES; LOLI ; <http://csi.micromedex.com/fraMain.asp?Mnu=0>
- UN Recommendations on the transport of dangerous goods 17th
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans;<http://monographs.iarc.fr>
- ECHA CHEM; <http://echa.europa.eu/web/guest/information-on-chemicals/registeredsubstances>
- OECD SIDS; <http://webnet.oecd.org/Hpv/UI/Search.aspx>
- HSDB; <http://toxnet.nlm.nih.gov/cgi-bin/sis/search2>
- EPA; <http://www.epa.gov/iris>
- InCHEM; <http://www.inchem.org/>
- EPISUITE Program ver.4.1

B. Key acronyms

- ACGIH(American Conference of Governmental Industrial Hygienists)
- ECHA(European Chemicals Agency)
- OECD(Organization for Economic Co-operation and Development)
- CERCLA(Comprehensive Environmental Response, Compensation, and Liability Act)
- IARC(International Agency for Research on Cancer)
- NIOSH(National Institute for Occupational Safety and Health)
- OSHA(Occupational Safety and Health Administration)
- NTP(National Toxicology Program)
- TSCA(Toxic Substances Control Act)
- NFPA(National Fire Protection Association)
- LC50(Lethal Concentration 50% kill)
- LD50(Lethal Dose 50% kill)
- EC50(50% Effect Concentration)
- STEL(Short Term Exposure Limit)
- TWA(Time weight Average)
- TLV(Threshold Limit Value)

C. Issue date : 2009.07.17.

D. Revision number and date :

- Revision number : Rev. 7
- Revision data : 2018. 03 . 1 5

E. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).
- This safety data sheet is based on current knowledge and information that we know.
- Please note that this information is not a guarantee of the product itself.