

## Heavy Aromatics

## 1. identification

- A. Product name : Heavy Aromatics
- B. Recommended use of the chemical and restriction on use : Petroleum solvent for industry
- C. Manufacturer / Supplier / Distributor information
- Manufacturer information
    - Supplier : GODO CHEMICAL Corporation
    - Address : #1017, 10F Suseo Hyundai Ventureville 10 Bamgogae-ro 1-gil Gangnam-gu  
Seoul 06349 Korea
    - Telephone : (82)2 417 2555~6
    - Email : godochem@godochem.com

## 2. hazard identification

- A. Classification
- Skin corrosion/Irritation: 2
  - Eye Damage/Irritation: 2
  - Sensitization-Skin: 1
  - Carcinogenicity: 2
  - Specific target organ toxicity(single exposure): 2
  - Specific target organ toxicity(repeated exposure): 2
  - Aspiration hazard: 1

B. Label element, including precautionary statements:

- Hazard symbols



- Signal words
  - Danger
- Hazard statements
  - H304: May be fatal if swallowed and enters airways
  - H315: Causes skin irritation
  - H317: May cause an allergic skin reaction
  - H319: Causes serious eye irritation
  - H351: Suspected of causing cancer
  - H371: May cause damage to organs
  - H373: May cause damage to organs <...> through prolonged or repeated exposure

- Precautionary statements

 Prevention

- 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/vapors/spray.

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- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264: Wash ... thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P282: Wear cold insulating gloves/face shield/eye protection.

☞ Prevention

- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- 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.
- P309+P311: IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
- P314: Get medical advice/attention if you feel unwell.
- P321: Specific treatment (see ... on this label).
- P331: Do NOT induce vomiting.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313: If eye irritation persists: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P363: Wash contaminated clothing before reuse.

☞ Storage

- P405: Store locked up.

☞ Disposal

- P501: Dispose of contents/container to (in accordance with local/ regional/ national/ international regulation).

O Other hazards which do not result in classification

- NFPA Ratings: Health - 2, Flammability - 1, Reactivity - 0

### 3. composition/information on ingredients

Chemical identity	Common name, synonym	CAS Number	Percentage (%)
Aromatic hydrocarbon (C=11)	C11 Aromatics	92113-08-1	54~56
Aromatic hydrocarbon(C=9-10)	C10 Aromatics	93821-31-9	28~30
Naphthalene	Naphthalene	91-20-3	6~8
1-Methylnaphthalene	1-Methylnaphthalene	90-12-0	2~2.9
2-Methylnaphthalene	2-Methylnaphthalene	91-57-6	2~2.9
1,2,3,5-Tetramethylbenzene	1,2,3,5-Tetramethylbenzene	527-53-7	0.01~0.02

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**4. first aid measures**

## A. Eye contact:

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

## B. Skin contact:

Remove contaminated clothing and wash skin with plenty of soap and water. Flush with plenty of water for 15 minutes. If sticky, use waterless cleaner first. Seek medical attention if ill effect or Irritation develops.

## C. Inhalation:

If overcome by exposure, remove person to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

## D. Ingestion:

Do not induce vomiting. Obtain emergency medical attention. Prompt action is essential.

## E. Most important symptoms/effect, acute and delayed:

May cause slight eye and skin irritation. Not expected to be a sensitizer.

This material may be absorbed through the skin.

Overexposure may cause coughing, shortness of breath, dizziness, central nervous system depression, intoxication and collapse.

Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis.

## F. Indication of immediate medical attention and special treatment needed, if necessary:

Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

**5. fire fighting measures**

## A. Suitable extinguishing media:

SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam.

LARGE FIRE: Use water spray, water fog or alcohol-resistant foam

## B. Specific hazards arising from the chemical:

Thermal decomposition may produce carbon monoxide and other toxic vapors.

## C. Special protective equipment and precautions for firefighters:

Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear. Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Vapors may be heavier than air. May travel long distances along the ground before igniting and flashing back to vapor source. Fine sprays/mists may be combustible at temperatures below normal flash point. Fight fire from a safe distance/protected location.

Heat may build enough pressure to rupture closed containers/spreading fire/increasing risk of burns/injuries. Use water spray/fog for cooling. Avoid frothing/steam explosion. Burning liquid may float on water. Although water soluble, may not be practical to extinguish fire by water dilution. Notify authorities immediately if liquid enters sewer/public waters.

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**6. additional release measures**

## A. Personal precautions, protective equipment and emergency procedures:

Wear chemical resistant gloves such as: Butyl rubber. Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn.

The equipment must be cleaned thoroughly after each use.

## B. Environmental precautions:

May contaminate water supplies/pollute public waters. Evacuate/limit access.

Equip responders with proper protection.

Prevent flow to sewer/public waters. Stop release. Notify fire and environmental authorities.

Restrict water use for cleanup.

## C. Methods and materials for containment and cleaning up:

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

Stop leak if you can do it without risk.

All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material.

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Large Spills: Water spray may reduce vapor but may not prevent ignition in closed spaces. Recover by pumping or with suitable absorbent

**7. handling and storage**

## A. Precautions for safe handling:

Avoid contact with skin. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

## B. Conditions for safe storage including incompatibilities:

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded.

Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters

Storage Temperature: [Ambient]

Storage Pressure: [Ambient]

Suitable Containers/Packing: Barges Drums Tank Cars Tank Trucks

Suitable Materials and Coatings: Carbon Steel Stainless Steel Polyethylene Polypropylene Teflon

Unsuitable Materials and Coatings: Natural Rubber Butyl Rubber Ethylene-propylene-diene monomer

(EPDM) Polystyrene

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**8. exposure controls/personal protection**

A. Exposure limits in the air of the workplace, biological limit values:

Solvent Naphtha

– EU HSPA(hydrocarbons Solvents Producers Association) TWA: 100mg/m<sup>3</sup>

Naphthalene

– OSHA TWA: 10ppm

– ACGIH TWA: 10ppm, STEL: 15ppm

– NIOSH TWA(10hr): 10ppm, STEL: 15ppm

B. Appropriate engineering controls:

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded.

Use explosion–proof ventilation equipment.

C. Individual protection measures:

Respiratory protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: Half–face filter respirator

Eye protection:

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists

for eye contact due to splashing or spraying liquid, airborne particles, or vapor.

Hand protection:

Wear chemical resistant gloves such as: Butyl rubber.

Body protection:

Any specific clothing information provided is based on published literature or manufacturer data.

The types of clothing to be considered for this material include:

If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended

**9. physical and chemical properties**

A. Appearance (physical state, color etc): Clear colorless Liquid

B. Odor : Aromatic odor

C. Odor threshold: No Data Available

D. pH : Not Data Available

F. Initial boiling Point and boiling range : 185 ~ 354°C

G. Flash point: 65°C

H. Evaporation rate : <1 (ASTM D3539, n–BuAc=100)

I. Flammability (solid, gas) : No Data Available

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- J. Upper/lower flammability or explosive limits : Upper Limit (5.3 vol%)/Lower Limit (0.7 vol%)
- K. Vapor pressure : No Data Available
- L. Solubility (ies) : below 0.1wt% of water
- M. Vapor density : >1 (Air = 1)
- N. Specific gravity: 0.941 ~ 1.000 at 15.56 °C
- O. Partition coefficient: n-octanol/water : No Data Available
- P. Auto-ignition temperature: No Data Available
- Q. Decomposition temperature: No Data Available
- R. Viscosity: 1.81~1.82(@50 °C)

**10. stability and reactivity**

- A. Chemical stability: Material is stable under normal conditions
- B. Possibility of hazardous reactivity: Not expected to occur.
- C. Conditions to avoid: Heat, sparks, open flame, other ignition sources, and oxidizing conditions.
- D. Incompatible materials  
: Strong oxidizers such as hydrogen peroxide, nitric acid, sulphuric acid, etc.
- E. Hazardous decomposition products: Carbon oxides (CO, CO<sub>2</sub>)

**11. toxicological information**

- A. Information on the likely routes of exposures:
- Inhalation exposure: May cause slight irritation
  - Ingestion exposure: May cause vomit, coughing, shortness
  - Skin exposure: May cause slight skin irritation
  - Eye exposure: May cause slight eye irritation
- B. Delayed and immediate effects and also chronic effects from short and long term exposure:
- Acute toxicity:  
<NLM>  
Oral- LDLo(rat) >5ml/kg  
Skin- LD50(rabbit): >2mg/kg  
Inhalation- LC50(rat): 590mg/m<sup>3</sup>
  - <IUCLID>  
Oral- LDLo(rat) >5157mg/kg  
Skin- LC50(rabbit): >3160mg/kg  
Inhalation- LC50(rat): >11.4mg/L/6h
  - Skin corrosion/irritation: May cause slight skin irritation
  - Serious eye damage/irritation: May cause slight eye irritation
  - Respiratory sensitization: Not expected to be a sensitizer
  - Skin sensitization: Naphthalene may be expected to be a sensitizer

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- Carcinogenicity: IARC classify Group3
  - Germ cell mutagenicity: not applicable
  - Reproductive toxicity: not applicable
  - Specific target organ systemic toxicity—single exposure: Naphthalene may be expected to hemolytic anemia.
  - Specific target organ systemic toxicity—repeated exposure: Repeated or Prolonged exposure of naphthalene may be expected to hemolytic anemia.
  - Aspiration hazard: Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis.
- C. Numerical measures of toxicity (such as acute toxicity estimate): No Data Available

**12. ecological information**

- A. Aquatic, terrestrial organisms toxicity:  
For Fish/Aquatic invertebrates/ Algae/Microorganisms  $1 < LC/EC/IC50 < 10\text{mg/l}$
- B. Persistence and degradability:  
Expected to be readily bio-degradable.  
Expected to degrade rapidly in air
- C. Bioaccumulative potential: Expected to bioaccumulate.
- D. Mobility in soil: No Data Available.
- E. Other adverse effects: No Data Available.

**13. disposal considerations**

- A. Disposal methods: Use only licensed transporters and permitted facilities for waste disposal.
- B. Disposal considerations(Specify disposal container and methods):  
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**14. transport information**

- A. UN Number: No Data Available.
- B. UN Proper Shipping Name: No Data Available.
- C. Transport hazard class(es): No Data Available.
- D. Packing group, if applicable: No Data Available.
- E. Environmental hazards: No data available
- F. Special precautions for user: No data available

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## 15. regulatory information

A. Safety, health and environmental regulations specific for the product in question:

USA DOT 49 CFR 172.101:

shipping name: flammable liquids(Naphtha)

ID Number: NA1993

Hazard classes: flammable liquids

Packing Group: III

WHMIS Class/Description: Class B3 flammable liquids

NATIONAL CHEMICAL INVENTORY LISTING: DSL, EINECS, PICCS, TSCA, INV(CN)

<EU Classification and Labelling information>

o Classification: Xn

o Risk Phrases

R65 : Harmful: may cause lung damage if swallowed.

o Safety Phrases

S2 : Keep out of the reach of children.

S23 : Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

S24 : Avoid contact with skin.

S62 : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

## 16. other information

A. References and sources for data:

1) S-OIL R&D Center

2) Globally Harmonized System of classification and labelling of chemicals(GHS), First revised edition, United Nations.

3) United States National Library of Medicine.

4) EINECS (European Inventory of Existing Commercial chemical Substances)

5) IARC(International Agency for Research on Cancer.)

6) NIOSH (The National Institute for Occupational Safety and Health)

7) ACGIH (American Conference of Governmental Industrial Hygienists.)

8) IUCLID Data

9) ICSC (International Chemical Safety Cards)- ILO

10) Transport of Dangerous Goods-UN

11) Korea Occupational Safety & Health Agency

12) U.S Department of Health and Human Services.서식번호 : SOM-0-120-03(2) ( 10 of 10 )

B. Originated date: 2015.08.06

C. Revision number and date:

Revision number : 0