


## 1. identification

- 1) Product Name : D110
- 2) Advisable use and Restriction: Metal processing base oil, Faint diluent
- 3) Supplier Information :
  - A. Company : GODO CHEMICAL Corporation
  - B. Address : #1017, 10F Suseo Hyundai Ventureville 10 Bamgogae-ro 1-gil Gangnam-gu Seoul  
06349 Korea
  - C. Emergency response number : TEL (82)-2-417-2555/6      FAX (82)-2-417-2557

## 2. hazard identification

- 1) Hazard classification:
  - ASPIRATION HAZARD Cat. 1
  - SKIN CORROSION/IRRITATION Cat. 2
- 2) Allocation label elements
  - A. Symbol :  

  - B. Signal word: Danger
  - C. Hazard statements
    - H304 May be fatal if swallowed and enters airways
    - H315 Causes skin irritation
  - D. Precautionary statements
    - Prevention
      - P264 Wash ... thoroughly after handling.
      - 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.
      - P321 Specific treatment (see ... on this label).
      - P331 Do NOT induce vomiting.
      - P332+P313 If skin irritation occurs: Get medical advice/ attention.
      - P362 Take off contaminated clothing and wash before reuse.
    - Storage
      - P405 Store locked up.
    - Disposal
      - P501 Dispose of contents/container to (in accordance with local/regional/national/international regulations.)

E. Other hazard information not included in hazard classification:

–NFPA rating: Health 1, Flammability 2, Reactivity 0

### 3. composition/information on ingredients

Chemical Name	Common name	CAS No.	Content (%)
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	Hydrotreated kerosene, Distillate fuel oils, light	64742-47-8	100

### 4. first aid measures

1) Eye contact:

- Flush eyes gently with water for at least 15 minutes while holding eyelids apart
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- If symptoms develop, immediately move individual away from exposure and into fresh air.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel..

2) Skin contact:

- Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
- In case of burns, immediately cool affected skin for as long as possible with cold water.
- Seek medical attention in event of irritation..

3) Inhalation:

- Remove from exposure to fresh air immediately.
- Lay patient down. Keep warm and rested.
- If not breathing, give artificial respiration.
- If breathing is difficult, give oxygen.
- Perform CPR if necessary.
- Get medical attention immediately.

4) Ingestion:

- If swallowed do NOT induce vomiting..
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Possible aspiration hazard.
- Get medical aid immediately



## 5) Advice to physician:

- Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.

Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

## 5. fire fighting measures

## 1) Extinguishing media:

- Small fires: dry chemical, carbon dioxide, alcohol-resistant foam
- Large fires: dry chemical, carbon dioxide, alcohol-resistant foam, water spray

## 2) Hazards from chemical product : (Ex: hazardous combustion products)

- Liquid and vapour are flammable.
- Vapour forms an explosive mixture with air.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.

## 3) Protective clothing and fire fighting:

- Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

## 6. additional release measures

## 1) Health considerations and protective equipment:

- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Use a spark-proof tool.



## 2) Environmental considerations:

- Spillage from entering drains or water course.
- If contamination of drains or waterways occurs, advise emergency services.

## 3) Spill clean-up procedures:

- Clean up all spills immediately.
- Contain and absorb spill with inert material (e.g. vermiculite, sand or earth)
- Collect residues in a flammable waste container.
- Water spray or fog may be used to disperse /absorb vapour.
- Collect recoverable product into labelled containers for recycling.
- Collect solid residues and seal in labelled drums for disposal.
- Dike far ahead of liquid spill for later disposal.

## 7. handling and storage

## 1) Handling:

- Avoid working in spray mist.
- When using do not eat, drink or smoke.
- Always wash hands with soap and water after handling.
- DO NOT allow clothing wet with material to stay in contact with skin.
- Avoid contact with eyes, skin, and clothing.
- Containers, even those that have been emptied, may contain explosive vapours.
- Keep container tightly closed.
- Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. .
- Use spark-free tools when handling.

## 2) Storage:

- Keep away from sources of ignition and strong oxidising agents and acids.
- Store in a cool, dry, well-ventilated area away from incompatible substances.
- Store in original containers in approved flammable liquid storage area.
- Store in a tightly closed container.
- Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets, allowable quantities and minimum storage distances.
- Have appropriate extinguishing capability in storage area and flammable gas detectors.

## 8. exposure controls / personal protection



## 1) Exposure limits value

Compound	Regulatory in KOREA	ACGIH	Biological exposure limit
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	No data	No data	No data

## 2) Engineering controls : Indoor work place:

- Local exhaust ventilation or a process enclosure ventilation system may be required.
- Ventilation equipment should be explosion-resistant.
- Where exposure may occur, engineering controls, rather than the provision of Personal Protective Equipment (PPE) should be employed.

## 3) Personal protection :

## a. Respiratory protection:

- Wear respiratory protection which is appropriate to exposed gas/liquid physical and chemical properties authenticated by Korea Occupational Safety & Health Agency.
- Wear half-face respirator supplied with appropriate filters or cartridge(s) when exposure concentration is lower than 2000mg/m<sup>3</sup>.
- Wear loose-fitting hood/helmet style electromotive respirator or continuous-flow dustproof mask supplied with appropriate filters or cartridge(s) when exposure concentration is lower than 5000mg/m<sup>3</sup>
- Wear full-face or electromotive half-face or air continuous-flow/pressure demand half-face respirator supplied with appropriate filters or cartridge(s) - when exposure concentration is lower than 10000mg/m<sup>3</sup>.
- Wear full-face or helmet/hood type or demanded-pressure breathing respirator supplied with appropriate filters or cartridge(s) when exposure concentration is lower than 200000mg/m<sup>3</sup>.
- Wear self-contained breathing apparatus(SCBA) or pressure-demanded self-contained breathing apparatus(SCBA) respiratory protection supplied with appropriate filters or cartridge(s) when exposure concentration is lower than 2000000mg/m<sup>3</sup>.

## b. Eye protection :

- Use chemical splash goggles and face shield.
- Some plastic personal protective equipment (PPE) are not recommended as they may produce static electricity.
- Provide emergency showers and eyewash near work place.

## c. Skin protection :

- Wear chemical protective gloves, eg. PVC.
- Some plastic personal protective equipment (PPE) are not recommended as they may produce static electricity.



## d. Body protection:

- Overalls, PVC Apron,
- PVC protective suit may be required if exposure severe..

## 9. physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Almost No
Threshold of odor	No data
pH	N/A
Melting point	No data
Initial boiling point or range	254–290°C (5–95%)
Flash point	113°C
Evaporation rate	< 1 (Ether=1)
Flammability (solids, gas)	No data
Upper/lower flammability/explosive limit	5.5/0.6 (vol% in air)
Vapor pressure	0.01 - 0.3hPa at 20°C
Solubility	15mg/L at 20°C
Vapor density	4.5 (air = 1)
Specific gravity	0.8125
n-octanol/water partition coefficient	3.3 - 6
Auto ignition temperature	> 247°C @ 1013hPa
Degradation temperature	No data
Viscosity	3.00 @ 40°C
M.W	Unspecified

## 10. stability and reactivity

## 1) Stability and hazardous reactivity:

- Stable under normal temperatures and pressures.
- Product is considered stable.
- Hazardous polymerisation will not occur.

## 2) Conditions to avoid:

- All ignition sources (heat, sparks or flames)

## 3) Incompatibility:

- Avoid reaction with oxidising agents.

## 4) Hazardous decomposition products:

- Oxides of carbon.



## 11. toxicological information

### 1) Exposure route information

- The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

### 2) Acute and chronic effects by short term or long term exposure:

#### ○ Acute toxicity:

- Oral: LD50>5000 mg/kg
- Eye/Skin: LD50>2000 mg/kg
- Inhalation: LC50>3mg/L/4h

#### ○ Skin corrosion/ irritation: (Cat. 2)

- Moderately irritating (Rabbit)

#### ○ Serious eye damage/ eye irritation:

- Slightly irritating (Rabbit)

#### ○ Respiratory sensitization:

- Not sensitizing (Guinea pig)

#### ○ Skin sensitization:

- Not sensitizing (Guinea pig)

#### ○ Carcinogenicity:

- Pyrolysis fuel oil (both water and oil quenched) was carcinogenic in the mouse skin painting bioassay.

#### ○ Germ cell mutagenicity:

- In vitro – Ames test (Salmonella typhimurium TA98, TA100, TA1535, TA1537, TA1538) : Negative
- In vivo – Cytogenetic assay (Rat) : Negative
- Micronucleus assay (Mouse) : Positive

#### ○ Reproductive toxicity:

- At rat inhalation test, There was no evidence of any adverse compound effect on the dams, nor was there evidence of compound-induced terata, variation in sex ratio, embryotoxicity or inhibition of foetal growth and development.
- Coal-derived experimental fuel oil administered orally to male and female rats at doses up to 0.5g/kg for 13 weeks prior to mating did not adversely affect reproductive capacity or performance.

#### ○ Specific target organ toxicity (single exposure) :

- A group containing 5 male and 5 female Sprague-Dawley rats was tested at a single dose of 5 g/kg. Administration was by gavage. Main clinical signs were hypoactivity. At necropsy, the only visible finding was kidney distension in one male animal.

#### ○ Specific target organ toxicity (repeated exposure) :

- At rats, no treatment-related effects were evident from the haematology, clinical chemistry parameters and organ weight data.
- Diffuse hepato-cytomegaly was evident in livers from 9/10 high dose and 4/10 low dose rabbits during the 4 wk dosing period

#### ○ Aspiration hazard: (Cat. 1)

- Kinematic viscosity: about 6.0 cSt (centistokes)

## 12. ecological information

- 1) Aquatic/terrestrial toxicity:
  - LC50(96hr)> 2.2mg/L(Lepomis macrochirus, Fish)
- 2) Persistence and biodegradation:
  - Not readily biodegradable
  - Log Kow=3.3-6
- 3) Bioaccumulation: BCF=130-159
- 4) Mobility in soil: No data
- 5) Other hazardous information: NOEC=1mg/L

## 13. disposal considerations

- 1) Disposal:
  - Incinerate separated oil from oil and water, and treat the remaining water after separating at the water pollution control facilities.
  - Incinerate or stabilize residue treated by evaporation·concentration.
  - Incinerate residue treated by agglomeration·precipitation.
  - Refine by Separation·distillation·extraction·filtration·pyrolysis.
  - Incinerate or stabilize residue.
- 2) Precaution :
  - Dispose of contents/container to ...

## 14. transport information

- 1) UN No : N/A
- 2) Proper shipping name : N/A
- 3) Class or division : N/A
- 4) Packing group : N/A
- 5) Marine pollutant : listed
- 6) Special safety response for transportation or transportation measure:
  - Emergency measures in case of fire : F-E
  - Emergency measures in the effluent : S-E
  - IATA Classification: Not classified as dangerous under IATA Transport.

## 15. regulatory information

- 1) Korea occupational safety and health regulation in Korea : N/A
- 2) Hazardous chemical management regulation in Korea : N/A
- 3) Hazardous chemical safety management regulation in Korea : N/A





- 4) Waste management regulation in Korea : N/A
- 5) Other in KOREA and except KOREA regulation:
- KOREA regulation :
    - Persistent organic. pollutants management regulation : N/A
  - Except KOREA regulation:
    - U.S.A. management information(OSHA regulation): N/A
    - U.S.A. management information(CERCLA regulation): N/A
    - U.S.A. management information(EPCRA 302 regulation): N/A
    - U.S.A. management information(EPCRA 304 regulation): N/A
    - U.S.A. management information(EPCRA 313 regulation): N/A
    - U.S.A. management information(Rotterdam Convention on Substances): N/A
    - U.S.A. management information(Stockholm Convention on Substances): N/A
    - U.S.A. management information(Montreal Protocol on Substances): N/A
    - EU CLASSIFICATION (CLASSIFICATION): Asp. Cat. 1; R65
    - EU CLASSIFICATION (RISK PHRASES): R65
    - EU CLASSIFICATION (SAFETY PHRASE): S2, S23, S24, S6

## 16. other information

- 1) REFERENCES:
- References
    - KOSHANET MSDS
    - ChemWATCH
    - IUCLID
    - ECOTOX
    - NITE
    - Recommendations on the transport of dangerous goods
    - NCIS
    - Emergency response guide book
    - The Chemical Database
    - ICSC
    - RTECS
    - ESIS
    - HPVIS
  - Abbreviations
    - N/A: Not applicable
- 2) Prepare date: 2016. 06. 18
- 3) Revised date:
- 4) Other: