

# SAFETY DATA SHEET

According to OSHA Hazcom Standard 29 CFR 1910.1200

## KUMANOX-3110 F

Date of issue: 2015-05-19

Revision date: 2020-11-16

Version: R0003.0001

### 1. IDENTIFICATION

#### A. Product name

- KUMANOX-3110 F

#### B. Recommended use and restriction on use

- General use : Additive for paint, polymer additive, antioxidant
- Restriction on use : Not available

#### C. Manufacturer / Supplier / Distributor information

##### o Manufacturer information

- Company name : Kumho Petrochemical Co., Ltd. Yeosu Specialty chemicals Plant
- Address : 227, Yeosusandan 2-ro, Yeosu-si, Jeollanam-do, Korea
- Dept. : Production Technology Team
- Telephone number : +82-61-688-3920
- Emergency telephone number : +82 61 688 3920~4
- Fax number : +82-61-688-3939

##### o Supplier/Distributor information

- Company name :
- Address :
- Emergency telephone number :

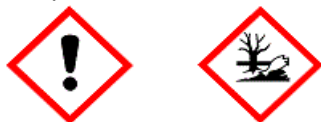
### 2. HAZARD IDENTIFICATION

#### A. GHS Classification

- Skin corrosion/irritation : Category2
- Skin sensitization : Category1
- Chronic aquatic toxicity : Category2

#### B. GHS label elements

##### o Hazard symbols



##### o Signal words

- Warning

##### o Hazard statements

- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H411 Toxic to aquatic life with long lasting effects

##### o Precautionary statements

###### 1) Prevention

- P261 Avoid breathing gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- 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.

###### 2) Response

- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P321 Specific treatment
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P363 Wash contaminated clothing before reuse.
- P391 Collect spillage.

### 3) Storage

- Not applicable

### 4) Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation

## C. Other hazards which do not result in classification

- Not available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Styrenated phenol	Not available	61788-44-1	100

## 4. FIRST AID MEASURES

### A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

### B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Wash thoroughly after handling.

### C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.

### D. Ingestion contact

- Do not induce vomiting.
- Rinse your mouth with water immediately.

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

- Not available

### F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

## 5. FIREFIGHTING MEASURES

### A. Suitable (Unsuitable) extinguishing media

- Extinguish with foam, carbon dioxide, dry powder or water fog. Extinguish with dry sand.
- Avoid use of water jet for extinguishing

### B. Specific hazards arising from the chemical

- During burning, irritating and toxic gases may be generated by pyrolysis or combustion.
- Hazardous combustion products: Styrene, carbon monoxide, carbon dioxide, nitrogen oxides

### C. Special protective actions for firefighters

- Move containers from fire area, if you can do without the risk.
- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.

- Fight advanced or massive fires from safe distance or protected location.
- Wear appropriate protective equipment as described in Section 8 of this safety data sheet.
- Keep upwind.
- Avoid inhalation of materials or combustion by-products

## 6. ACCIDENTAL RELEASE MEASURES

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

- Must work against the wind, let the upwind people to evacuate.
- Do not touch spilled material. Stop leak if you can do it without risk.
- Move container to safe area from the leak area.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

### 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

- Large spill : Stay upwind and keep out of low areas.
- Notify the central and local government if the emission reach the standard threshold.
- Disposal of waste shall be in compliance with the Wastes Control Act
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Prevent the influx to waterways, sewers, basements or confined spaces.

## 7. HANDLING AND STORAGE

### A. Precautions for safe handling

- Refer to Engineering controls and personal protective equipment.
- Follow all MSDS and label precautions as emptying the container may leave product residues (vapors, liquids, solids).
- Avoid contact with skin and eyes.
- Avoid contact with incompatible materials.
- Do not inhale the steam prolonged or repeated.

### B. Conditions for safe storage, including any incompatibilities

- Store only in the original sealed container.
- Keep in a dry and cool place.
- Preserve in accordance with applicable laws and regulations.
- Avoid contact with incompatible materials.
- Avoid contact with oxidizing agent, acids, alkali, moisture, heat, direct sunlight or other ignition sources.
- Store away from water and sewer.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### A. Exposure limits

- o ACGIH TLV
  - Not available
- o OSHA PEL
  - Not available

### B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

### C. Individual protection measures, such as personal protective equipment

- o Respiratory protection
  - 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.
- 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.
- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- **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.
- **Hand protection**
  - Wear appropriate glove.
- **Skin protection**
  - Wear appropriate clothing.
- **Others**
  - Not available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Liquid
- Color	Pale yellow
B. Odor	Odourless
C. Odor threshold	Not available
D. pH	7
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	310 °C ~ 313 °C
G. Flash point	182 °C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	1.08
O. Partition coefficient of n-octanol/water	log Pow : > 4 (22°C)
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	400-800 cps (25°C)
S. Molecular weight	220

## 10. STABILITY AND REACTIVITY

### A. Chemical Stability

- This material is stable under recommended storage and handling conditions.

### B. Possibility of hazardous reactions

- Hazardous Polymerization will not occur.

### C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

### D. Incompatible materials

- Strong oxidising agents. Strong acids. Strong alkalis.

### E. Hazardous decomposition products

- Oxides of carbon (Carbon monoxide, Carbon dioxide), Phenol compounds, Oxides of nitrogen

## 11. TOXICOLOGICAL INFORMATION

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

- **(Respiratory tracts)**
  - Not available
- **(Oral)**
  - Not available
- **(Eye·Skin)**
  - Causes skin irritation
  - May cause an allergic skin reaction

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

- **Acute toxicity**
  - \* **Oral**
    - [Styrenated phenol] : LD50 >2500 mg/kg Rat
  - \* **Dermal**
    - [Styrenated phenol] : LD50 > 7940 mg/kg Rabbit
  - \* **Inhalation**
    - [Styrenated phenol] : LC50 158.31 mg/L/4hr (ECHA, predicted)
- **Skin corrosion/irritation**
  - Causes skin irritation , Irritating. (OECD TG, 439)
- **Serious eye damage/irritation**
  - Not available
- **Respiratory sensitization**
  - Not available
- **Skin sensitization**
  - May cause an allergic skin reaction. (OECD TG 429, GLP)
- **Carcinogenicity**
  - \* **IARC**
    - Not available
  - \* **OSHA**
    - Not available
  - \* **ACGIH**
    - Not available
  - \* **NTP**
    - Not available
  - \* **EU CLP**
    - Not available
- **Germ cell mutagenicity**
  - Bacterial reverse mutation test: Negative.
- **Reproductive toxicity**
  - Fertility - NOAEL 145 mg/kg/day, Oral, Rat, Developmental toxicity: - NOAEL: 148 mg/kg/day, Oral, Rat
- **STOT-single exposure**
  - Not available
- **STOT-repeated exposure**
  - Not available
- **Aspiration hazard**
  - Not available

## 12. ECOLOGICAL INFORMATION

### A. Ecotoxicity

- **Fish**
  - [Styrenated phenol] : LC50 = 1 ~ 10 mg/l 96 hr (KOSHA)
- **Crustaceans**
  - [Styrenated phenol] : EC50 = 4.6 mg/l 48 hr (NITE)
- **Algae**
  - [Styrenated phenol] : EC50 = 9.7 mg/l 72 hr (NITE)

### B. Persistence and degradability

- **Persistence**
  - [Styrenated phenol] : log Kow > 4 (IUCLID)
- **Degradability**
  - Not available

### C. Bioaccumulative potential

- **Bioaccumulative potential**
  - [Styrenated phenol] : BCF: 677, Fish
- **Biodegradation**
  - [Styrenated phenol] : Non-biodegradability, 7% (28days) (OECD 301, GLP) (KOSHA MSDS)

### D. Mobility in soil

- Not available

### E. Other adverse effects

- Not available

## 13. DISPOSAL CONSIDERATIONS

### A. Disposal methods

- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable
- It shall be treated by incineration

### B. Special precautions for disposal

- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act
- Dispose of waste in accordance with all applicable laws and regulations.

## 14. TRANSPORT INFORMATION

### A. UN No. (IMDG CODE/IATA DGR)

- 3082

### B. Proper shipping name

- ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, STYRENATED PHENOL, N.O.S.

### C. Hazard Class

- 9

### D. IMDG CODE/IATA DGR Packing group

- III

### E. Marine pollutant

- Applicable

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

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-F (Water-soluble marine pollutants)

## 15. REGULATORY INFORMATION

### A. National and/or international regulatory information

- **POPs Management Law**
  - [Styrenated phenol] : Not applicable
- **Information of EU Classification**
  - \* **Classification**
    - Not applicable

- **U.S. Federal regulations**
  - \* **OSHA PROCESS SAFETY (29CFR1910.119)**
    - Not applicable
  - \* **CERCLA Section 103 (40CFR302.4)**
    - Not applicable
  - \* **EPCRA Section 302 (40CFR355.30)**
    - Not applicable
  - \* **EPCRA Section 304 (40CFR355.40)**
    - Not applicable
  - \* **EPCRA Section 313 (40CFR372.65)**
    - Not applicable
- **Rotterdam Convention listed ingredients**
  - Not applicable
- **Stockholm Convention listed ingredients**
  - Not applicable
- **Montreal Protocol listed ingredients**
  - Not applicable

## 16. OTHER INFORMATION

### A. Reference

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

### B. Issue date

- 2015-05-19

### C. Revision number and Last date revised

- 2 times, 2020-11-16

### D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).