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# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : THIOKOL LP-12

Name of supplier : Toray Fine Chemicals Co., Ltd.

Address :

Toray Bldg., 8-1, Mihama 1-chome, Urayasu, Chiba 279-8555, Japan

Division :

THIOKOL Sales & Marketing Sect.

Phone : +81-47-350-6150

FAX : +81-47-350-6095

MSDS No. : N3E-LP2007-2

## 2. Hazards Identification

GHS Classification :

Hazard Classification :

Explosives : Not applicable

Flammable gases : Not applicable

Flammable aerosols : Not applicable

Oxidizing gases : Not applicable

Gases under pressure : Not applicable

Flammable liquids : Not Classified

Flammable solids : Not applicable

Self-reactive substances : Not applicable

Pyrophoric liquids : Not Classified

Pyrophoric solids : Not applicable

Self-heating substances : Not applicable

Substances which, in contact with water, emit flammable gases : Not applicable

Oxidizing liquids : Not applicable

Oxidizing solids : Not applicable

Organic peroxides : Not applicable

Corrosive to metals : Classification not possible

Acute toxicity (Oral) : Category 5

Acute toxicity (Dermal) : Not Classified

Acute toxicity (Inhalation : Gases) : Not applicable

Acute toxicity (Inhalation : Vapors) : Classification not possible

Acute toxicity (Inhalation : Dust / Mist) : Classification not possible

Skin corrosion/irritation : Classification not possible

Serious eye damage/eye irritation : Classification not possible

Respiratory or skin sensitization : Classification not possible

Skin sensitization : Classification not possible

Germ cell mutagenicity : Classification not possible

Carcinogenicity : Classification not possible

Reproductive toxicity : Classification not possible

Effects on or via lactation : Classification not possible

Specific target organ systemic toxicity - Single Exposure : Classification not possible

Specific target organ systemic toxicity - Repeated Exposure : Classification not possible

Aspiration hazards : Classification not possible

Acute hazards to the aquatic environment : Classification not possible

Chronic hazards to the aquatic environment : Classification not possible

**Label element :**

Signal Word : WARNING

Hazard statement :

May be harmful if swallowed

Precautionary statement :

First Aid : See Section 4

Preventive measures : See Section 7

Storage : See Section 7

Dispose : See Section 13

**3. Composition/Information on Ingredients**

Substance / Mixture : Substance

Chemical name :

Liquid Diethoxymethane Polysulfide Polymer

Common chemical name

Liquid Diethoxymethane Polysulfide Polymer

Composition : >99%

Molecular formula

$H(SC_2H_4OCH_2OC_2H_4S)_nH$

CAS No. : 68611-50-7

ENCS No. : 7-1469

ISHL No. : -

TSCA : Registered

Harmful impurity :

Formaldehyde <1ppm

**4. First Aid**

If inhaled :

If you feel sick, consult your doctor for medical treatment.

In case of sticking to skin :

If you feel sick, consult your doctor for medical treatment.

Wash the affected area with warm water using a mild soap.

If contact with eyes :

Consult your doctor for medical treatment immediately.

If swallowed :

If you feel sick, contact poison control center or a doctor.

Consult your doctor for medical treatment immediately.

If he/she is not conscious, do NOT give anything from mouth.

If he/she is not breathing, wipe off the remaining stuff from the mouth and give artificial respiration.

If skin irritation or rash appears :

Consult your doctor for medical treatment immediately.

**5. Fire-Fighting Measures**

Extinguishing media :

In case of fire, use water mist, foam, powder or carbon dioxide.

Use dry chemical powder, carbon dioxide or dry sand for small fires.

Use foam for tank fires.

Specific Hazards under fire :

Toxic gases will form upon combustion : carbon monoxide, sulfur oxide, hydrogen sulfide, acetaldehyde

and low molecular weight hydrocarbons.

Specific fire-fighting measures :

Extinguish from the windward side of fire with safe distance.

Remove ignition source if possible to do so without danger.

Chill container with mist water.

Evacuate people to safe area except firefighting personnel.

Remove the fuel if possible to do so without danger.

Apply water from a safe distance to cool and protect surrounding area.

Protection of fire-fighters :

Firefighters should wear self-contained breathing protector with full face piece operated positive pressure mode.

## 6. Accidental Release Measures

Notes for person :

Forbid unauthorized personnel to enter.

Wear proper protective equipment.

Leakage is stopped if a safe method is possible.

Notes for environmental impact :

Prevent effluence from entering sewers, drains or lower areas.

Methods and materials for containment and cleaning up :

For large spill, dike for later disposal.

Preventive measures for secondary accident :

Eliminate all sources of ignition and ventilate the area.

## 7. Handling and Storage

Handling :

Preventive measures :

Wash thoroughly after handling, especially before eating, drinking, smoking or using the toilet.

Shut off all pilot light, electrical igniter (spark or Nichrome wire) or any other ignition source while handling or until all vapors (odors) are gone.

Safety notes :

Do NOT mix with oxidizing agents and strong alkalis.

Storage :

Proper storage condition :

Keep away from oxidizing agents and strong alkalis.

Inside storage should be in a cool well-ventilated non-flammable area, away from any ignition source.

## 8. Exposure Control / Personal Protection

Engineering measures :

Make available emergency shower and eye wash in the work area.

Use with local exhaust ventilation.

Adopted value :

ACGIH-TLV : No regulated ingredients.

OSHA-PEL : No regulated ingredients.

Personal protective equipment :

Respiratory protection :

In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection :

Wear appropriate gloves (impermeable rubber gloves).

Eye protection :

Safety glasses

Safety goggles

Skin and body protection :

Wear appropriate protective clothes (impermeable apron, rubber boots, face shields, etc).

Proper sanitary measures :

Do NOT eat, drink or smoke at work.

Wash hands with soap after use.

## 9. Physical and Chemical Properties

Physical properties :

Appearance : liquid

Color :

Clear amber liquid

Odor :

Characteristic mercaptan

Phase change temperature :

Boiling point : Not Available

Melting point : Not Available

Flash point :

>200°C

Ignition temperature :

>250°C

Explosion : Not Available

Vapor pressure : Not Available

Vapor density : Not Available

Specific Gravity / Density :

1.29 (20°C)

Viscosity :

38-50 Pa/(m/s)/m (25°C)

Solubility :

Solubility in water :

insoluble

Solubility in solvents :

Xylene, Toluene : soluble

## 10. Stability and Reactivity

Stability :

This product is considered a stable material under anticipated normal conditions of storage and handling.

Materials to be avoided :

Oxidizing materials

Strong alkalis

## 11. Toxicological Information

Acute toxicity :

Oral

rat LD50 : >3000mg/kg

Transdermal

rabbit LD50 : >2000mg/kg

Serious eye damage / eye irritation :

Irritation is not expected for the temporary contact.

Respiratory or skin sensitization :

Prolonged or repeated contact, may cause inflammation.

Germ cell mutagenicity :

There is no data to be described.

Carcinogenic effects :

There is no data to be described.

## 12. Ecological Information

Ecotoxicity :

There is no data to be described.

Fish toxicity :

There is no data to be described.

Biodegradability :

There is no data to be described.

Bioaccumulation :

There is no data to be described.

Mobility in soil :

There is no data to be described.

## 13. Disposal Considerations

This products and their containers must be disposed of / treated in accordance with the related regulations, or must be entrusted to the licensed company by clarifying the right data.

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

## 14. Transport Information

UN No. / Hazard Class :

Not applicable to UN Number

DOT Label : Not applicable

Specific safety measures and conditions on transport :

Prevent leaks from the container.

Conform the cargo not to fall in order to prevent damage.

## 15. Regulatory Information

[JAPAN]

Hazardous material under the Fire Service Act [Japan]:

Class 4

Petroleum Group 4

Packing Group 3

Poisonous and Deleterious Substances Control Act [Japan]:

Not applicable

Pollutant Release and Transfer Register(PRTR) [Japan]:

Not applicable

Industrial Safety and Health Law [Japan]:

Not applicable

Other regulatory information :

[North America]

Federal:

SARA Title Third-Section 311/312-Hazard Categories:

N-Fire Hazard

N-Sudden Release of Pressure Hazard  
N-Reactivity Hazard  
N-Immediate(acute)Health Hazard  
N-Delayed(chronic)Health hazard

Ozone-Depleting Chemicals:  
No regulated ingredients.

SARA Section 302 Extremely Hazardous Mat:  
No regulated ingredients.

SARA Section 313 Toxic Chemicals  
No regulated ingredients.

Chemical Listing:  
Listed on the following Country's Chemical inventories:  
United States Toxic Substance Control act  
Chemical component(s) in this product are on the section 8(b) chemical  
Substance Inventory List(40 CFR 710)

State Right-To-Know:

Pennsylvania-New Jersey R-T-K:  
None-hazardous trade secret ingredient(s)  
California-California Proposition 65:  
WARNING: This product contains a chemical(s) known to the State of California  
to cause cancer and birth defects or other reproductive harm.  
Formaldehyde 50-00-0 Trace\*  
Cancer Hazard.  
Ethylene oxide 75-21-8 Trace\*  
Cancer and reproductive Hazard.  
\*Trace=present at less than 1ppm.

CONEG:  
No data available.

Canada:  
Not a controlled product.

CEPA-NPRI:  
No regulated ingredients.

## 16. Other Information / References

General disclaimer :

To the best of our knowledge, the information contained herein is accurate. However, we can not assume any liability whatsoever for the accuracy or completeness of the information contained herein. The users are responsible for final decisions on suitability of any materials. All materials may present unknown hazards and should be used in caution. Although certain hazards are described herein, we cannot guarantee that there are all the hazards which exist.

References :

Thiokol LPs MSDS (Morton International Inc.)

GHS Classification: Thiokol LP's:

Acute toxicity: Category 5



Signal Word: Warning

Hazard Statement:

H303 May be harmful if swallowed

Precautionary Statements:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking

P264: Wash thoroughly after handling

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P302+352: IF ON SKIN: Wash with soap and water

P304+312: IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell

P305+351+338 + 313: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Get medical advice/attention.

P333+313: If skin irritation or a rash occurs: Get medical advice/attention

P403+235: Store in a well ventilated place. Keep cool