

Section 1. Identification

Product Name: ROYALSIL HI-PURITY MTMO

Product Use: Industrial Use Only. Used for coupling & crosslinking agent and surface modifier.

Effective Date: 29 May 2019

Replaces: 12 November 2018

Supplier Information:

ROYALSIL, Inc.
25 Lancelot Lane
Mount Laurel, NJ 08054-1912

USA Emergency Phone Number:

CHEMTREC (24-hr/7 days): 1-800-424-9300

Refer to ROYALSIL, Inc. Contract # CCN674872.

Section 2. Hazard(s) Identification

Emergency Overview: Clear to yellowish liquid. Causes skin irritation. Harmful to aquatic life.

GHS Classification:

| | |
|---------------------------------|-------------------|
| Skin Sensitization | Category 1 |
| Acute aquatic toxicity | Category 2 |
| Chronic aquatic toxicity | Category 2 |
| Flammable liquid | Category 4 |
| Acute toxicity (Oral) | Category 4 |



GHS Pictograms:

GHS Label: WARNING

POTENTIAL HEALTH EFFECTS:

CODE OF HAZARD STATEMENTS:

Physical Hazards

H227- Combustible liquid and vapor.

Health Hazards

H227- Combustible Liquid and vapor.

H303- May be harmful if swallowed.

H315- Causes skin irritation.

H317- May cause an allergic skin reaction.

Environmental Hazards

H411- Toxic to aquatic life with long lasting effects.

CODE OF PRECAUTIONARY STATEMENTS:

General

P101- Keep out of reach of children.

P103- Read label before use.

Prevention Statements

- 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.
- P242- Use non-sparking tools.
- P262- Do not get in eyes, on skin or on clothing.
- P264- Wash thoroughly after handling using this product.
- P270- Do not eat, drink, or smoke when using this product.
- 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 Statements

- P302- P352- IF ON SKIN (or hair): Wash with plenty water/soap.
- P305- P310- P338- P351 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POSION CENTER or doctor/physician if you feel unwell.
- P313- P333- If skin irritation or rash occurs: Get medical advice/attention.
- P363- Wash contaminated clothing before reuse.
- P370- P378- In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
- P391- Collect spillage.

Storage

- P235- P403- Store in well-ventilated place. Keep cool.

Disposal

- P501- Dispose of contents/container to an approved waste disposal plant.

ROUTES OF ENTRY: Eye contact, skin adsorption, ingestion and inhalation.

CARCINOGENICITY: None.

Section 3. Composition/Information on Ingredients

| Ingredients | CAS No. | EINECS No. | % | Reach No. |
|---|------------|------------|--------|-----------|
| Mercaptopropyltrimethoxysilane | 4420-74-0 | 224-588-5 | <98.0% | No |
| 2,2-dimethoxy-1-thia-2-silacyclopentane | 26906-85-5 | NA | <2 % | No |

Section 4. First Aid Measures

General Advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

Eye Contact: Flush eyes with water immediately while holding eyelids open. Remove contacts, if worn, after initial flushing and continue flushing for at least 15 minutes.

Seek medical attention if irritation persists.

Skin Contact: Use soap and water to remove from the skin, remove contaminated clothing, clean thoroughly before reuse. If irritation persists, contact a physician.

Inhalation: Move to fresh air. If not breathing, give rescue breathing. If breathing is difficult, give oxygen. Seek medical attention if breathing is still difficult.

Ingestion: If swallowed, get medical attention immediately. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person.

Note to Physician: Treat symptomatically and supportively.

Section 5. Fire Fighting Measures

Flash Point: 190.4°F (85°C) Combustible liquid

Flammability Limits: LEL: NE UEL: NE

Fire Fighting Media: Use foam, water spray, or carbon dioxide.

Special Fire Fighting Procedures: Eliminate all sources of ignition and ensure adequate ventilation. In case of fire cool endangered containers with water. First responders need to wear full-bunker gear with Self Contained Breathing Apparatus (SCBA), never enter a confined space unless fully protected with proper personal protective equipment (PPE).

Section 6. Accidental Release Measures

Use personal protective equipment, see section 8.

Clean-up Procedures: Avoid cutting the containers, ground to avoid explosive gases. Stop the source of the release if you are not put at risk. Use inert absorbent material (such as earth, diatomaceous earth, vermiculite) to absorb the spill, use non-sparking shovel to pick up absorbent for disposal. Assure sufficient ventilation.

Spills and Leaks: Dispose in accordance to local, state or Federal regulations.

Section 7. Handling and Storage

Handling: Provide good ventilation. Use non-sparking tools. Wear personal protective equipment, see section 8. Do not get into eyes, on skin and on clothing. Do not breathe vapors or mists. Use with adequate ventilation. Wash thoroughly after handling.

Storage: Store in original labeled container. Keep in cool and dry areas.

Section 8. Exposure Controls/Personal Protection

Introductory Remarks: Use a local exhaust ventilation or other engineering controls to minimize airborne exposure. A safety shower and eye wash should be readily available. Mercaptopropyltrimethoxysilane permissible exposure limit (PEL) is 260 mg/m³.

Personal Protection:

Eyes: Wear safety goggles or face shield to prevent eye contact.

Body: Chemical apron, long sleeve shirts, long pants, socks, and rubber boots.

Hands: Chemical resistant gloves.

Respiratory: Wear an approved respirator that provides protection from this product if the airborne concentrations exceed the recommended exposure limits.

Section 9. Physical and Chemical Properties

| | | | |
|------------------------------------|---|-----------------------|----------------|
| Physical State, Color, Odor | Clear to yellowish liquid with ester odor | Freezing Point | -94°F (-70°C) |
| Flash Point | 190.4°F (85°C) | Boiling Point | 190.4°F (85°C) |
| Density(water=1) | 1.06 g/ml @ 68°F (20°C) | VOC Content | <5% |

Section 10. Stability and Reactivity

Chemical Stability: Considered stable under normal ambient temperatures.

Hazardous Decomposition: In complete combustion, oxides of carbon and silicate are formed.

Hazardous Polymerization: Will not occur.

Incompatibility- Materials to Avoid: Reacts with water, strong oxidizing agent & strong acids.

Section 11. Toxicological Information

Toxicology: Acute Oral LD₅₀ (rat) = > 933 mg/KG

Acute Dermal LD₅₀ (rabbit) = > 2,608 mg/KG

Skin Irritation: Mild.

Eye Irritation: None.

Reproductive Toxicity: None.

Carcinogenic Effects: None.

Section 12. Ecological Information

Excotoxicity: LC₅₀(Brach danio rerio) = > 439 mg/L (96 hour)

EC₅₀(Daphnia) = 6.7 g/L (48 hour)

Toxic to aquatic life with long lasting effects.

Section 13. Disposal Considerations

Waste Disposal Method: Whatever cannot be saved for recovery or recycling should be managed by the local, state or Federal Regulations.

Do not cut the metal drums with a torch.

Container Handling and Disposal: All containers should be triple rinsed and disposed of according to local, state and Federal regulations.

Section 14. Transport Information

Shipping Name: ROYALSIL HI-PURITY MTMO

Proper Shipping Description (Ground):

UN1993, Flammable liquid, N.O.S., (Mercaptopropyltrimethoxysilane, 2,2-dimethoxy-1-thia-2-silacyclopentane), 3, III

IATA: (Cargo aircraft only)

UN1993, Flammable liquid, N.O.S., (Mercaptopropyltrimethoxysilane, 2,2-dimethoxy-1-thia-2-silacyclopentane), 3, III

Use packing instruction 310. The maximum net quantity is 58.117 gallons (220 L).

IMO (Water):

UN1993, Flammable liquid, N.O.S., (Mercaptopropyltrimethoxysilane, 2,2-dimethoxy-1-thia-2-silacyclopentane), 3, III

Use P001 and LP01 packing instructions.

Section 15. Regulatory Information

EPCRA 311/312 Categories: Immediate (Acute) Health Effects: Yes
Delayed (Chronic) Health Effects: No
Fire Hazard: Yes
Sudden Release of Pressure: No
Reactivity: No

Right to know classification: None are listed in the states of MA, NJ and PA.

TSCA: Mercaptopropyltrimethoxysilane, is on the TSCA active list.

Reportable Quantity (RQ): None.

Prop. 65: None.



WHMIS: Flammable and Combustible materials.

These ingredients are listed in the DSL and NDSL list in Canada

Compounds are listed as chemical inventories of Australia, EU Japan, Korea, Philippines, United Kingdom and United States of America.

Abbreviations:

| | | | |
|------------------|---|------------------|------------------------------|
| CAS # | Chemical Abstract Service Number | °F | Fahrenheit Temperature Scale |
| °C | Celsius Temperature Scale | LD ₅₀ | Lethal Dose Oral or Dermal |
| EINECS # | European Inventory of Existing Chemical Substances Number | LEL | Lower Explosive Limit |
| hPa | hectopascal | PEL | Permissible Exposure Limit |
| LC ₅₀ | Lethal Inhalation | Prop. | Proprietary |
| UEL | Upper Explosive Limit | NA | Not Applicable |
| PPE | Personal Protective Equipment | STEL | Short Term Exposure Limit |
| PSI | Pounds Per Square Inch | TSCA | Toxic Substance Control Act |
| ND | Not Determined | VOC | Volatile Organic Content |
| TLV | Threshold Limit Value | | |
| TWA | Time Weighted Average | | |

Section 16. Other Information

Hazardous Material Information System

National Fire Protection Association

| HMIS | | NFPA | |
|------|---------------------|------|-------------|
| 2 | Health | 2 | Health |
| 2 | Fire | 2 | Fire |
| 1 | Reactivity | 1 | Instability |
| H | Personal Protection | | NA |

| | | | | | |
|----------------------------|----------------|------------------|-------------|-------------------|-----------------|
| Health | 4 Deadly | 3 Extreme Danger | 2 Dangerous | 1 Slight hazard | 0 No hazard |
| Fire | 4 < 73 °C | 3 < 100 °C | 2 < 200 °C | 1 >200 °C | 0 Will not burn |
| Reactivity/ Instability | 4 May detonate | 3 Explosive | 2 Unstable | 1 Normally stable | 0 Stable |

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This Safety Data Sheet (SDS) meets the requirements of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) this product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all information required by CPR.

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