

**Section 1. Identification**

**Product Name:** ROYALSIL HI-PURITY VTMOEO

**Product Use:** The role of both coupling agent & cross-linking agent, used for polymer types such as polyethylene, polypropylene, unsaturated polyester, etc. Commonly used in fiberglass, cable, rubber, polyurethane, epoxies, etc.

**Effective Date:** 21 May 2019

**Replaces:** 1 March 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 pale yellow combustible liquid. Causes mild skin irritation. Cause eye irritation. Toxic to aquatic life.

**GHS Classification:**

**Skin Irritation**

**Category 2**

**Eye Irritation**

**Category 2A**

**Reproductive Toxicity**

**Category 1B**



**GHS Pictograms:**

**GHS Label:** DANGER

**POTENTIAL HEALTH EFFECTS:**

**CODE OF HAZARD STATEMENTS:**

**Physical Hazards**

H227- Combustible liquid.

**Health Hazards**

H227- Combustible liquid.

H302- Harmful if swallowed.

H315- Cause skin irritation.

H320- Causes eye irritation.

H332- Harmful if inhaled.

**Environmental Hazards**

H401- Toxic to aquatic life.

**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.

P233- Keep container tightly closed.

P261- Avoid breathing dust/fume/gas/mist/vapor/spray.

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.

P304- P312- P340- IF INHALED. Remove victim to fresh air and keep at rest in apposition comfortable and breathing. Call a POISON CENTER or doctor/physician you feel unwell.

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:** 2-methoxyethanol may cause reproductive development.

**Section 3. Composition/Information on Ingredients**

Ingredients	CAS No.	EINECS No.	%	Reach No.
Vinyltris(2-methoxyethoxy)silane	1067-53-4	213-934-0	≥98%	Yes
2-methoxyethanol	109-86-4	203-713-7	≤2	Yes

**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:** 239°F (115°C) Combustible liquid

**Flammability Limits:** LEL: ND UEL: ND

**Fire Fighting Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. At temperatures above 302°F (150°C) in air the product can form formaldehyde vapor and moisture.

**Special Fire Fighting Procedures:** In case of fire cool endangered containers with water. Hazardous fumes in fires, specific to the product are ammonia, alcohols, amines, nitrogen and silicon oxides. 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:** 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. 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. 2-methoxyethanol permissible exposure limit is 0.3 mg/m<sup>3</sup>

**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

<b>Physical State, Color, Odor</b>	Clear to pale yellow liquid with slight odor	<b>Vapor Pressure</b>	1.1hPa @ 68°F (20°C)
<b>Ignition Temperature</b>	446°F (231°C) @ 68°F (20°C)	<b>Density(water=1)</b>	> 1.03 g/ml @ 77°F (25°C)
<b>Flash Point</b>	239°F (115°C)	<b>Boiling Point</b>	>482°F (>285°C)

### Section 10. Stability and Reactivity

**Chemical Stability:** Considered stable under normal ambient temperatures.

**Hazardous Decomposition:** In complete combustion, oxides of carbon, nitrogen and silicate are formed. When heated above >302°F (>150°C) in the presence of air, product can form formaldehyde vapors.

**Hazardous Polymerization:** Will not occur.

**Incompatibility- Materials to Avoid:** Reacts with strong oxidizing agent and water.

### Section 11. Toxicological Information

**Toxicology:** Acute Oral LD<sub>50</sub> (rat) = > 2,000 mg/KG

Acute Dermal LD<sub>50</sub>(rabbit) = > 2,000 mg/KG

**Skin Irritation:** Cause skin irritation.

**Eye Irritation:** Causes eye irritation.

**Acute Eye Irritation:** Mild irritation.

**Acute Inhalation Toxicity:** Expected to be an irritant to the respiratory system.

**Reproductive Toxicity:** May cause effects on reproductive development.

**Carcinogenic Effects:** 2-methoxyethanol may cause reproductive development.

### Section 12. Ecological Information

**Ecotoxicity:** LC<sub>50</sub>(Fish) = 9,650 mg/L (96 hour)

This is toxic to aquatic organisms.

**Environmental Fate:** No data available.

**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.

**Container Handling and Disposal:** DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS TORCH. 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 VTMOEO

**Proper Shipping Description (Ground):**

Not regulated.

**IATA: (Cargo aircraft only)**

Not regulated.

**IMO (Water):**

Not regulated.

**Section 15. Regulatory Information**

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

**Right to know classification:** Vinyltris(2-methoxyethoxy)silane and 2-methoxyethanol are listed in the states of CA, FL, MN, MA, NJ and PA.

**TSCA:** Vinyltris(2-methoxyethoxy)silane and 2-methoxyethanol are on the TSCA active list.

**Reportable Quantity (RQ):** None.

**Prop. 65:** 2-methoxyethanol may cause reproductive development.



**WHMIS:** Flammable and combustible material.  
These ingredients are listed in the DSL and NDSL list in Canada

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

**Abbreviations:**

CAS #	Chemical Abstract Service Number		
°C	Celsius temperature scale	°F	Fahrenheit temperature scale
EINECS #	European Inventory of Existing Chemical Substances Number		
hPa	hectopascal	LD <sub>50</sub>	Lethal dose oral or dermal
LC <sub>50</sub>	Lethal inhalation	LEL	Lower explosive limit
UEL	Upper explosive limit	PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment	Prop.	Proprietary
PSI	pounds per square inch	NA	Not applicable
ND	Not determined	STEL	Short Term Exposure Limit
TLV	Threshold Limit Value	TSCA	Toxic Substance Control Act
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

**Prepared by: Dennis E. Belau**

**Reviewed by: Rosario A. Licciardello**  
**ROSARIO@ROYALSIL.com**

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.

This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no



## **SAFETY DATA SHEET**

## **ROYALSIL HI-PURITY VTMOEO**

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This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws related to the product being used.

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