

Section 1. Identification

Product Name: ROYALSIL HI-PURITY HMDZ

Product Use: Industrial or intermediate chemical

Effective Date: 18 May 2020

Replaces: 18 September 2019

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 flammable liquid. Prolonged contact causes skin burns and eye damage. Ingestion or inhalation will be harmful. Toxic if skin contacts product. Harmful to aquatic life with long lasting effects.

GHS Classification:

Serious Eye Damage	Category 1
Skin Corrosion	Category 1
Flammable Liquids	Category 2
Acute Toxicity (Dermal)	Category 3
Specific Target Organ	Category 3
Systemic Toxicity-Single Exposure	Category 3
Acute Aquatic Toxicity	Category 3
Chronic Aquatic Toxicity	Category 3
Acute Toxicity (Oral)	Category 4
Acute Toxicity (Inhalation)	Category 4B



GHS Pictograms:

GHS Label: DANGER

POTENTIAL HEALTH EFFECTS:

CODE OF HAZARD STATEMENTS:

Physical Hazards

H226- Flammable liquid and vapor.

Health Hazards

H225- Highly flammable liquid and vapor.

H302- Harmful if swallowed.

H311- Toxic in contact with skin.

H314- Causes severe skin burns and eye damage.

H332- Harmful if swallowed.

H336- May cause drowsiness or dizziness.

Environmental Hazards

H412- Harmful 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.

P233- Keep container tightly closed.

P240- Ground and bond container and receiving equipment.

P241- Use explosion proof electrical/ventilating/lighting/equipment.

P242- Use non-sparking tools.

P243- Take precautionary measures against static discharge.

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

P301- P330- P331- IF SWALLOWED: Rinse mouth. Do Not induce vomiting.

P303- P353- P361- IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.

P304- P340- IF INHALED. Remove victim to fresh air and keep at rest in apposition comfortable and breathing.

P305- P338- P351- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310- Immediately call a Poison Center or doctor/ physician.

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.

Storage

P235- P403- Keep cool and store in well-ventilated place.

P405-Store locked up.

Disposal

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

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

CARCINOGENICITY: None listed in IARC, OSHA or NTP.

Section 3. Composition/Information on Ingredients

Ingredients	CAS No.	EINECS No.	%	Reach No.
Hexamethyldisilazane	999-97-3	203-603-9	>99%	Active
Hexamethyldisiloxane	107-46-0	203-492-7	< 1%	Active

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: 51.8°F (11°C) Flammable liquid

Flammability Limits: LEL: 0.8% UEL: 25.9%

Fire Fighting Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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 Remove sources of ignition. Vapor may travel to areas away from site, be aware of potential flash back. Use 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, this material may accumulate dangerous levels of static electricity. The user must be sure to dissipate static charge by careful bonding or grounding of all equipment.

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. Keep away from heat, sparks, flames and other ignition sources. Do not get into eyes, on skin and on clothing. Do not breathe vapors or mists. 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.

Hexamethyldisilazane permissible exposure limit (PEL) is 25 ppm.

Hexamethyldisiloxane permissible exposure limit (PEL) is 200 ppm.

Personal Protection:

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

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

Hands: Antistatic Nitrile rubber gloves with 0.14 inches (0.35 mm) of thickness and break through time of > 480 minutes.

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 liquid with amine odor	Vapor Pressure	> 12 hPa @ 68°F (20°C) > 1.74 x 10 ⁻³ psi @ 68°F (20°C)
Auto Ignition Temperature	716°F (380°C)	Density(water=1)	> 0.77 @ 68°F (20°C)
VOC	< 50 g/L	Solubility	Not soluble in water
Freezing Point	-112°F (-80°C)	Boiling Point	260°F (125°C)
Flash Point	51.8°F (11°C)	Viscosity, Dynamic	0.7 mPA.s

Section 10. Stability and Reactivity

Chemical Stability: Considered stable under normal ambient temperatures.

Hazardous Decomposition: If complete combustion, on contact with water; alcohols, amines and ammonia., oxides of carbon and silicate are formed.

Hazardous Polymerization: Will not occur.

Incompatibility- Materials to Avoid: Acids and strong oxidant can cause exothermic reactions.

Section 11. Toxicological Information

Toxicology: Acute Oral LD₅₀ (rat) = 851 mg/kg
Acute Dermal LD₅₀ (rabbit) = 547 mg/kg
Acute Inhalation LC₅₀ (rat) = 10 mg/L

Skin irritation: Causes burns in rabbits.

Eye irritation: Causes irreversible eye damage.

Acute Eye Irritation: Severe.

Acute Skin Irritation: May cause burns.

Acute Dermal Toxicity: Expected to be toxic through the skin.

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

Reproductive Toxicity: No evidence of adverse effects on sexual function and fertility or on development, based on animal experiments.

Carcinogenic Effects: None listed in IARC, OSHA or NTP.

Section 12. Ecological Information

Ecotoxicity: LC₅₀ (Zebra Fish) = 56 mg/L 96 hours

LC₅₀ (Water Flea) = 80 mg/L

EC₅₀ (Green Algae) = 7.5 mg/L

This is to aquatic organisms with long lasting effects.

Environmental Fate: This product not readily biodegradable. There is low bio accumulative potential. Very low adsorption in soil.

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 HEAT OR CUT THE EMPTY CONTAINER WITH AN ELECTRIC OR GAS 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 HMDZ

Proper Shipping Description (Ground):

UN3286, Flammable liquid, toxic, corrosive, N.O.S., (Hexamethyldisilazane, Hexamethyldisiloxane), 3,6.1, 8, II Marine Pollutant

IATA: (Cargo aircraft only)

UN3286, Flammable liquid, toxic, corrosive, N.O.S., (Hexamethyldisilazane, Hexamethyldisiloxane), 3,6.1, 8, II Marine Pollutant

Use packing instruction 307. The maximum net capacity is 1.32 gal (5 L).

IMO (Water):

UN3286, Flammable liquid, toxic, corrosive, N.O.S., (Hexamethyldisilazane, Hexamethyldisiloxane), 3,6.1, 8, II Marine Pollutant
Use packing instruction P001.

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: Yes


Right to Know Classification: Ingredients are listed in the states of NJ and PA.

TSCA: Hexamethyldisilazane and Hexamethyldisiloxane are listed on TSCA active inventory list.

Reportable Quantity (RQ): Hexamethyldisilazane (100 lbs. or 220 kgs.)

Prop. 65: None

WHMIS:  Flammable and Combustible Material  Corrosive Materials

 **Materials Causing Other Serious Toxic Effects**
These ingredients are listed in the DSL and NDSL list in Canada

listed as chemical inventories of Australia, Canada, China, EU, Japan, Korea, Ministry of International Trade and Industry, Netherlands, Philippines, Switzerland, Taiwan, United Kingdom and United States of America.

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 ₅₀	Lethal Dose Oral or Dermal
LC ₅₀	Lethal Concentration	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



SAFETY DATA SHEET

ROYALSIL HI-PURITY HMDZ

TLV Threshold Limit Value
TWA Time Weighted Average

TSCA Toxic Substance Control Act

Section 16. Other Information

Hazardous Material Information System		National Fire Protection Association	
HMIS		NFPA	
3	Health	3	Health
4	Fire	4	Fire
3	Reactivity	3	Instability
	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

Reasons for revision: Make compliant under new regulations.

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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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