

Section 1. Identification

Product Name: ROYALSIL HI-PURITY DADS

Product Use: For Industrial use only. Amino functional silane that may be used over a wide range of applications.

Effective Date: 23 August 2019

Replaces: New

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 combustible liquid. Prolonged contact causes skin burns and eye damage. Ingestion or inhalation will be harmful. Toxic to aquatic life.

GHS Classification:

Serious eye damage/eye irritation

Category 1

Skin sensitization

Category 1

Hazardous to the aquatic environment

Acute, Category 3

Flammable liquids

Category 4



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.

H312- Harmful in contact with skin.

H318- Causes serious eye damage.

H332- May be 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.

P260- Do not breathe vapors/spray.

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

P305- P338- P351- IN 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.

P333- P313- If skin irritation or rash occurs: Get medical advice/attention.

P342- P311- If experiencing respiratory symptoms: call POISON CENTER/doctor.

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-Keep cool. 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: Methanol is listed as reproductive toxin.

Section 3. Composition/Information on Ingredients

Ingredients	CAS No.	EINECS No.	%
N-2-(aminoethyl)-3-aminopropylmethyldimethoxysilane	3069-29-2	231-336-6	≥98%
Methanol	67-56-1	200-659-6	≤2%

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: 194°F (90°C) Combustible liquid

Flammability Limits: LEL: ND UEL: ND

Fire Fighting Media: Use alcohol-resistant foam, dry chemical or carbon dioxide. This product reacts with water.

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, carbon, 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 adequate 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. Methanol 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 liquid with slight odor	Vapor Pressure	< 2hPa @ 68°F (20°C)
Flash Point	194°F (90°C)	Density(water=1)	< 1 @ 77°F (25°C)
Boiling Point	282°F (139°C)	Solubility	Reacts with water

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.

Hazardous Polymerization: Will not occur.

Incompatibility- Materials to Avoid: Reacts with strong oxidizing agents.

Section 11. Toxicological Information

Toxicology: **Acute Oral LD₅₀ (rat) = 2,995 mg/kg**
Acute Dermal LD₅₀ (rat) = >2,000 mg/kg

Skin Irritation: Mildly irritating.

Eye Irritation: Serious damage to eyes.

Acute Eye Irritation: Severe.

Acute Skin Irritation: Mild.

Acute Dermal Toxicity: Not 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: Methanol is listed as a reproductive toxin.

Section 12. Ecological Information

This is to aquatic organisms.

Environmental Fate: Silane- is 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.

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 DADS

Proper Shipping Description (Ground):

UN3267, Corrosive liquid, Basic, Organic, N.O.S., (N-2-(aminoethyl)-3-aminopropylmethyldimethoxysilane), 8, III

IATA: (Cargo aircraft only)

UN3267, Corrosive liquid, Basic, Organic, N.O.S., (N-2-(aminoethyl)-3-aminopropylmethyldimethoxysilane), 8, III

IMO (Water):

UN3267, Corrosive liquid, Basic, Organic, N.O.S., (N-2-(aminoethyl)-3-aminopropylmethyldimethoxysilane), 8, III

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: (N-2-(aminoethyl)-3-aminopropylmethyldimethoxysilane) and methanol are listed in the states of NJ and PA

TSCA: (N-2-(aminoethyl)-3-aminopropylmethyldimethoxysilane) and methanol listed in TSCA active inventory.

Reportable Quantity (RQ): None In present containers.

Prop. 65: Methanol is listed as reproductive toxin.



WHMIS: Corrosive Materials Dangerously Reactive Material
Both ingredients are listed in the DSL and NDSL lists in Canada.

Compounds are listed as chemical inventories of Australia, Canada, China, EU, Japan, Korea, Philippines, Switzerland, Taiwan, 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 ₅₀	Lethal dose oral or dermal
LC ₅₀	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	
Health	2	2	Health
Fire	3	3	Fire
Reactivity	0	0	Instability
Personal Protection	H		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 representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability or completeness.

It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own use. We do not accept liability for any loss or damage that may occur from the use of this information.

Nothing herein shall be construed as a recommendation for uses which infringe on valid patents or as extending the license under valid patents. This SDS provides selected regulatory information on this product, including its components.

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.

DISCLAIMER

Strictly for Commercial or Research and Development use only. Not intended for drug, household or other noncommercial uses.

The use of "Qualitative Determinations of Organosilanes" is subject to many variables which can be environmentally or human caused which may allow the reading of results to be inaccurate.

The user of this information takes full responsibility in how these tests are performed and the seller in no way expressed, written or implied is responsible for the interpretation of the results. All use of these tests is the full responsibility of the user.

WARRANTY

The information above in the Safety Data Sheet is believed to be accurate and represents the best information currently available to ROYALSIL Inc and its supplier.

However, we make no warranty of merchantability or any other warranty, expressed or implied, with respect to such information, and we assume no liability resulting from its use.

Users should make their own investigations to determine the suitability of the information for their purposes. In no event shall ROYALSIL Inc. or its supplier be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, how so ever arising, even if ROYALSIL Inc and its supplier has been advised of the possibility of such damages. (REV: 9-4-16)