

**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

**Product Name:** roVa™ Shield

**Synonyms:** Silica aerogel material

**Use of the Substance/Preparation:** High performance insulation material

**Manufacturer:** roVa Corporation  
**Address:** 382, Gangnam-daero, Gangnam-gu, Seoul, Korea - 06232

**Telephone:** +82 2 796 8440  
**E-mail:** info@rovashield.com

**2. HAZARDS IDENTIFICATION****Emergency Overview****Caution:**

May cause skin and respiratory tract irritation. Ingestion may cause gastric disturbances.

**Appearance:** White liquid  
**Odor:** Faint Odor

**Primary Routes of Exposure:**

Primary routes of exposure for liquids include skin and eye contact, inhalation, and ingestion.

**Potential Health Effects****Skin contact:**

May cause skin irritation. May be harmful if absorbed through the skin.

**Eye contact:**

May cause eye irritation.

**Inhalation:**

Material may be irritating to upper respiratory tract and mucous membranes.

**Ingestion:**

May be harmful if swallowed.

**Chronic Effects of Exposure:**

None known for product

**Carcinogenicity:**

No data available. Also see Section 15.

**Target Organ Effects:**

Skin, Lungs

**Medical Condition Aggravated By Exposure:**

Excessive exposure and inhalation may aggravate pre-existing skin disorders and chronic respiratory disorders including, but not limited to, bronchitis, emphysema, and asthma.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Ingredient	CAS Number	Percent	EINECS Number
Acrylate Copolymer	25085-02-3	30~60	
Water	7732-18-5	30~50	231-791-2
Titanium dioxide	13463-67-7	1~5	
Trimethylsilylated Silica (amorphous silica)	7631-86-9	5~15	262-373-8
Proprietary Additive	NA	<=5	Not assigned

**4. FIRST AID MEASURES****Eye Contact:**

Immediately wash with large amounts of water for 15 minutes, occasionally lifting lids. Remove contact lenses if worn and continue to wash with water. If irritation occurs and persists, get medical treatment.

**Skin Contact:**

Remove contaminated clothing and footwear. Immediately wash with large amounts of water for at least 20 minutes. If irritation occurs and persists, get medical treatment.

**Ingestion:**

Seek immediate medical attention. Do not induce vomiting.

**Inhalation:**

Remove to fresh air. If irritation occurs and persists, get medical treatment.

**5. FIRE-FIGHTING MEASURES****Flash Point:**

&gt; 100 °C

**Autoignition Temperature:**

Not Determined

**Hazardous combustion products:**

Carbon dioxide, carbon monoxide, hydrocarbons

**Extinguishing Media:**

Use media suitable for surrounding fire and that are appropriate to the surrounding environment; Water & foam, water mist, carbon dioxide, and dry chemical fire extinguishers are all suitable.

Note that water & foam and water mist fire extinguishers are primarily for Class A fires.

**Protective Equipment for Fire-fighting:**

Firefighters should be equipped with self-contained breathing apparatus and turnout gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal Precautions:**

Wear personal protective equipment during cleanup and provide adequate ventilation.

**Environmental Precautions:**

Local authorities should be advised if significant spillages cannot be contained.

**Methods and Materials for Containment and Cleaning Up:**

Contain spills using inert absorbent material such as sand, earth, and saw dust. Use rags to clean up spilled material. Dispose in suitable waste containers in accordance with local, state, and federal regulations.

**7. HANDLING AND STORAGE****Precautions for Safe Handling:**

Wear personal protective gear (rubber gloves, protection uniform, activated carbon mask, etc.) and avoid direct skin contact. Provide adequate ventilation and avoid inhalation of vapor or mist. Practice good industrial hygiene and safety guidelines.

**Conditions for Safe Storage:**

Keep in cool and well-ventilated area. Avoid direct sunlight and protect from freezing.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Occupational Exposure Limits**

None applicable

**Engineering Controls**

Ensure adequate ventilation to maintain exposures below occupational limits.

**Personal Protective Equipment****Respiratory Protection:**

Wear properly fitted NIOSH/MSHA approved respirator whenever workplace conditions warrant use of a respirator. Wear respiratory protection if ventilation is inadequate.

**Hand Protection:**

Nitrile, latex or other impermeable protective gloves to prevent dermal exposure

**Eye Protection:**

Safety goggles (Chemical goggles). Wear face shields if splashing hazard exists.

**Hygiene Measures:**

Wash hands and/or face thoroughly between breaks and at the end of the working period.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White Liquid
<b>Odor:</b>	Faint Odor
<b>pH:</b>	7.0 ~ 9.0 (25 °C)
<b>Freezing/Melting Point:</b>	Not Determined
<b>Boiling Point:</b>	approximately 100 °C
<b>Flashing Point:</b>	> 100 °C
<b>Evaporation Rate:</b>	Not Determined
<b>Flammability:</b>	Not a flammable liquid according to GHS
<b>Vapor Pressure:</b>	approximately 17.5 mmHg (20 °C)
<b>Solubility in Water:</b>	Partly Soluble
<b>Autoignition Temperature:</b>	Not Determined
<b>Viscosity:</b>	10,000 ~ 18,000 mPa·s

**10. STABILITY AND REACTIVITY****Chemical Stability:**

Chemically stable under normal handling conditions.

**Hazardous Reactions:**

None under normal use

**Conditions To Avoid:**

Prolonged exposure to temperatures above the recommended use temperature.

**Substances to Avoid:**

Oxidizing agent, acid agent, alkali agent, alkali metal hydroxide, nitrate (Fire and explosion)  
Sulfuric acid (exothermic reaction)

**Hazardous Decomposition Products:**

carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), hydrocarbons

**11. TOXICOLOGICAL INFORMATION****Acute Toxicity****Oral**

Type of value: LD50

Species: rat

Value: > 2,000 - 10,000 mg/kg

**Irritation/Corrosion****Skin:**

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

**Eye:**

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

**Other information:**

The information was derived from products of similar composition.

**12. ECOLOGICAL INFORMATION****Fish**

Acute:

OECD Guideline 203 static

Brachydanio rerio/LC50 (96 h): &gt; 100 mg/l

**Aquatic invertebrates**

Acute:

OECD Guideline 202, part 1 static

Daphnia magna/EC50 (48 h): &gt; 100 mg/l

**Aquatic plants**

Toxicity to aquatic plants:

OECD Guideline 201 green algae/EC50 (72 h): &gt; 100 mg/l

Nominal concentration.

**Microorganisms**

Toxicity to microorganisms:

DIN EN ISO 8192-OECD 209-88/302/EEC,P. C activated sludge, domestic/EC20 (0.5 h): &gt; 100 mg/l

**Degradability / Persistence****Biological / Abiological Degradation**

Test method: OECD 302B; ISO 9888; 88/302/EEC,part C

Method of analysis: DOC reduction

Degree of elimination: &gt; 70 %

Evaluation: Easily eliminated from water.

The product can be virtually eliminated from water by abiotic processes  
e.g. adsorption onto activated sludge.**Bioaccumulation**

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

**13. DISPOSAL CONSIDERATIONS****Waste Disposal:**

Dispose in an approved facility or through a licensed waste disposal contractor. Disposal of this product, solutions, and any byproducts should at all times comply with the requirements of environmental protection and waste disposal legislation. Do not discharge into waterways, drains, and sewers.



# Material Safety Data Sheet

roVa™ Shield

Revision Date : 01/03/2022

**Container Disposal:**

Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Follow Waste Disposal guidelines.

## 14. TRANSPORT INFORMATION

**UN Number:**

Not classified as a dangerous good under transport regulations.

**UN Proper Shipping Name:**

Not classified as a dangerous good under transport regulations.

**Transport Hazard Class:**

Not classified as a dangerous good under transport regulations.

**Packaging Group:**

Not classified as a dangerous good under transport regulations.

**Land Transport:**

USDOT Not classified as a dangerous good under transport regulations.

**Sea Transport:**

IMDG Not classified as a dangerous good under transport regulations.

**Air Transport:**

IATA/ICAO Not classified as a dangerous good under transport regulations.

**Rail Transport:**

RID Not classified as a dangerous good under transport regulations.

## 15. REGULATORY INFORMATION

This product contains Styrene Acrylic Latex Polymer NJTS-50078-NCD.

Styrene Acrylic Latex Polymer NJTS-50078-NCD:

**U.S. Federal Regulations**

<b>Registration Status</b>	TSCA, US released/listed
<b>OSHA Hazard Category</b>	Not Hazardous
<b>SARA Hazard Category (EPCRA 311/312)</b>	Not Hazardous

**U.S. State Regulations**

<b>Right-to-Know Substances List</b>	NJ, PA, MA
--------------------------------------	------------

**California Proposition 65:**

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

**16. OTHER INFORMATION****HMIS Rating**

Health: 1                      Flammability: 1                      Physical Hazard: 0

**MSDS Creation Date:** 01/03/2022**Revision number and date**Number of Revision                      : 0  
Revision Date                                      :    /    /

Date format                                      : mm/dd/yyyy

**DISCLAIMER**

The Data set forth in these sheets are based on the information provided by the suppliers of the raw materials and chemicals used in the manufacturing of the aforementioned product. roVa corporation makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereon.

® and 'TM' indicate trademarks of roVa corporation.