

NanoSafeguard

Material Safety Data Sheet

Glass & Ceramics Sealing

1 . Product and company identification

Common name : Glass & Ceramics Sealing
Supplier/Manufacturer : NanoSafeguard
9720 Rainier Ave. S, Suite 3
Seattle, WA 98118
USA
Tel: +1 703 944 7690
In case of emergency : +1 800 255-3924 (Chemtel 24 hours emergency response.)

2 . Hazards identification

Physical state : Liquid. (Clear.)
Odor : Alcohol-like. [Slight]
Color : Colorless.
Hazard status : This material is classified as hazardous under OSHA regulations.
Emergency overview : WARNING !
FLAMMABLE LIQUID AND VAPOR. CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. CAN CAUSE TARGET ORGAN DAMAGE.
Flammable liquid. Irritating to eyes. Moderately irritating to the skin. Keep away from heat, sparks and flame. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects
Eyes : Irritating to eyes.
Skin : Moderately irritating to the skin.
Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Potential chronic health effects : CARCINOGENIC EFFECTS: A4 (Not classifiable for humans or animals.) by ACGIH.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
See toxicological information (section 11)

3 . Composition/information on ingredients

United States

Name	CAS number	%
Ethanol	64-17-5	60 - 100

4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
- Skin contact** : Wash with soap and water. Get medical attention if symptoms occur.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Notes to physician** : No specific antidote. Medical staff must contact Poison Control Center.

5 . Fire-fighting measures

- Flammability of the product** : Flammable.
- Products of combustion** : Decomposition products may include the following materials:
carbon oxides
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling

: Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

United States

Product name

Ethanol

Exposure limits

ACGIH TLV (United States, 1/2006).

TWA: 1880 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

NIOSH REL (United States, 12/2001).

TWA: 1900 mg/m³ 10 hour(s).

TWA: 1000 ppm 10 hour(s).

OSHA PEL (United States, 11/2006).

TWA: 1900 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

Engineering measures

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protection

Eyes

: Safety glasses.

Skin

: Lab coat.

Respiratory

: A respirator is not needed under normal and intended conditions of product use.

Hands

: Natural rubber (latex).



HMIS Code/Personal protective equipment

: B

Personal protection in case of a large spill

: Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear NIOSH-approved self-contained breathing apparatus or equivalent and full protective gear.

Hygiene measures : Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Follow good industrial hygiene practice.

9 . Physical and chemical properties

Physical state : Liquid. (Clear.)
Flash point : Closed cup: 12.85°C (55.1°F) [Tagliabue.]
Auto-ignition temperature : 398.85°C (749.9°F)
Flammable limits : Lower: 3.3%
 Upper: 19%
Color : Colorless.
Odor : Alcohol-like. [Slight]
Molecular weight : 46.08 g/mole
Molecular formula : CH₃CH₂OH
Boiling/condensation point : 78°C (172.4°F)
Melting/freezing point : -113.89°C (-173°F)
Relative density : 0.8
Vapor pressure : 5.3 kPa (40 mm Hg)
Vapor density : 1.6 [Air = 1]
Volatility : 100% (v/v)
Odor threshold : 10 ppm
Evaporation rate : 1.7 (Butyl acetate. = 1)
VOC : 100 (%)
Solubility : Easily soluble in the following materials: cold water and hot water.

10 . Stability and reactivity

Stability and reactivity : The product is stable.
Incompatibility with various substances : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Will not occur.
Conditions of reactivity : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
 Flammable in the presence of the following materials or conditions: heat.

11 . Toxicological information

Toxicity data

Product/ingredient name	Test / Route	Species	Result
Ethanol	LD50 Intra-arterial	Rat	11 mg/kg
	LD50 Intraperitoneal	Rat	3600 ug/kg
	LD50 Intravenous	Rat	1440 mg/kg
	LD50 Oral	Rat	7060 mg/kg
	LD50 Oral	Rat	7 g/kg

IDLH : 3300 ppm
Acute Effects
Eyes : Irritating to eyes.
Skin : Moderately irritating to the skin.
Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Potential chronic health effects	: CARCINOGENIC EFFECTS: A4 (Not classifiable for humans or animals.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available.
Target organs	: Causes damage to the following organs: blood, the reproductive system, liver, central nervous system (CNS).

12 . Ecological information

Ecotoxicity data

Product/ingredient name	Species	Test	Exposure	Result
Ethanol	Daphnia	Intoxication	48 hours	Acute EC50 >100 mg/L
	Daphnia	Intoxication	48 hours	Acute EC50 9.3 mg/L
	Daphnia	Physiology	48 hours	Acute EC50 2 mg/L
	Fish	Mortality	96 hours	Acute LC50 13000 mg/L
	Fish	Mortality	96 hours	Acute LC50 >100 mg/L
	Daphnia	Mortality	96 hours	Acute LC50 >100 mg/L

Environmental precautions	: No known significant effects or critical hazards.
Products of degradation	: Products of degradation: carbon oxides (CO, CO ₂) and water.

13 . Disposal considerations

Waste disposal	: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
-----------------------	---

14 . Transport information

NAERG : 127

Regulatory information	Proper shipping name	Class	UN number	PG	Label
UN / IMDG / IATA Classification	ETHANOL	3	UN1170	II	
DOT Classification	ETHANOL	3	UN1170	II	

Additional information	UN	IMDG	IATA	DOT
	-	-	Passenger and Cargo Aircraft Quantity limitation: 5 L	Limited quantity Yes.
			Cargo Aircraft Only Quantity limitation: 60 L Limited Quantities - Passenger Aircraft Quantity limitation: 1 L	Packaging instruction Passenger aircraft Quantity limitation: Forbidden. Cargo aircraft Quantity limitation: 30 L
				Special provisions T8, T31

15 . Regulatory information

United States

HCS Classification

: Flammable liquid
Irritating material
Target organ effects

U.S. Federal regulations

: **United States inventory (TSCA 8b):** This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Ethanol
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Ethanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

State regulations

: **Connecticut Carcinogen Reporting:** This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.
Rhode Island Hazardous Substances: This material is not listed.

California prop. 65: No products were found.

International regulations

International lists

: This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16 . Other information

Label requirements (U.S.A.)

: FLAMMABLE LIQUID AND VAPOR. CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. CAN CAUSE TARGET ORGAN DAMAGE.

Hazardous Material Information System (U.S.A.)

:

HMIS RATING

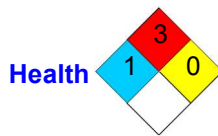
Health	*	1
Fire hazard		3
Physical Hazard		0
Personal protection		B

HAZARD RATINGS

4- Extreme
3- Serious
2- Moderate
1- Slight
0- Minimal

See section 8 for more detailed information on personal protection.

National Fire Protection Association (U.S.A.) :



Flammability

Reactivity

Special

References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

Date of issue : 05/30/2007

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.