

CeramSurf Part B Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- CeramSurf Part B

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Epoxy adhesive curing agent.
- This product is intended to be mixed only with its specific base adhesive; CeramSurf Part A.

1.3 Details of the supplier of the safety data sheet

- NOV Fiber Glass Systems
17115 San Pedro Avenue, Suite 200
San Antonio, Texas 78232 USA
Tel: 1-210-477-7500
Fax: 1-210-231-5915
E-mail: Mike.Thayer@nov.com

1.4 Emergency telephone number(s)

- 3E Company, 24-Hour Support (Access Code/Contract Number: 333386)
 - USA, Canada 1-888-298-2344
 - Asia, Pacific 1-760-476-3960
 - Europe, Middle East, Africa 1-760-476-3961
 - Americas 1-760-476-3962

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Physical

- Not classified

Health

- Skin corrosion/irritation, Category 2
- Serious eye damage/irritation, Category 1
- Respiratory sensitization, Category 1
- Toxic to reproduction, Category 2
- Carcinogen, Category 1B (inhalation, silicon carbide)
- Specific target organ toxicity – single exposure, Category 3 (respiratory tract irritation; man-made fibers)

Environmental

- Not classified

2.2 Label elements

Signal Word(s)

- DANGER

Pictogram(s)



Hazard Statements

- Physical
 - Not classified
- Health
 - H315: Causes skin irritation.
 - H317: May cause an allergic skin reaction.
 - H319: Causes serious eye irritation.
 - H335: May cause respiratory irritation.
 - H351: Suspected of causing cancer (inhalation: silicon carbide).
- Environmental
 - Not classified

Precautionary Statements

- Prevention
 - P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
 - P273: Avoid release to the environment.
 - P280: Wear protective gloves/protective clothing/eye protection/face protection.
- Response
 - P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 - P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
 - P304+P312: IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
 - P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P391: Collect spillage.
- Storage
 - P403+P233: Store in a well-ventilated place. Keep container tightly closed.

- Disposal
 - P501: Dispose of contents/container in accordance with regulatory requirements.

2.3 Other Hazards

- PBT and vPvB assessment
 - None of the ingredients are considered to be either PBT or vPvB.
- Warning: The cured adhesive product may form combustible dust concentrations in air when sanded, grinded, or cut.

SECTION 3: Composition/information on Ingredients

3.1 Substances

- Not applicable

3.2 Mixtures

Chemical Identity	CAS No.	EC No.	Concentration Range (weight %)
Ceramic materials and wares	066402-68-4	266-340-9	60 – 70
Silicon Carbide	000409-21-2	206-991-8	10 – 15
Modified polyethylene polyamine adduct (proprietary)	See Note	See Note	5 – 15
Man-Made Glass Fibers	065997-17-3	266-046-0	5 – 10

Note: Specific identity of proprietary component withheld by raw material supplier.

SECTION 4. First-aid measures

4.1 Description of first-aid measures

Inhalation

- Move to fresh air.
- If difficulty in breathing or respiratory irritation; seek immediate medical attention.
- If breathing has stopped; seek immediate medical attention, perform artificial respiration.

Skin contact

- Remove material from skin immediately by washing with soap and plenty of water.
- Remove contaminated clothing while washing.
- If irritation develops or persists; seek medical attention.

Eye contact

- Flush eyes thoroughly with water for several minutes.
- Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes.
- If irritation develops or persists, seek medical attention.

Ingestion

- Do not induce vomiting unless directed to do so by medical personnel.
- If conscious, rinse out mouth with water.
- If symptoms persist, seek immediate medical attention.

4.2 Most Important symptoms and effects, both acute and delayed

Acute

- No further relevant information available.

Delayed

- Pre-existing skin and respiratory conditions may be aggravated by prolonged or repeated contact.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically.
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SECTION 5: Firefighting measures

5.1 Extinguishing media

- Water for or fine spray, ABC dry chemical, foam or carbon dioxide.

5.2 Specific hazards arising from the substance or mixture

- Closed containers may rupture when exposed to extreme heat.
- Toxic or irritating substances may be emitted upon burning, combustion or decomposition.
- Combustion products may include and are not limited to: carbon oxides, nitrogen oxides.

5.3 Advice for firefighters

- Wear self-contained breathing apparatus and protective clothing, as necessary.
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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Due to the high viscosity of this product and the relatively small end-use container size, significant spills are unlikely to occur.

6.2 Environmental precautions

- Do not allow spilled materials to enter storm sewers, sanitary sewers, or impact groundwater.
- Do not allow spilled materials to remain on the ground.

6.3 Methods and materials for containment and cleaning up

- Contain spill and absorb with materials such as: sand, polypropylene fiber products, polyethylene fiber products.

- Avoid dispersal of dust in the air (i.e., cleaning dusty surfaces with compressed air) as this can contribute to a combustible dust hazard.

6.4 Reference to other sections

- See also, *SECTION 8: Control parameters* and *SECTION 13: Disposal considerations*.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Avoid contact with skin and eyes and inhalation of vapors.
- Avoid sources of ignition, including smoking while using this product.
- Thoroughly wash exposed skin after working with this product.
- Only use this product in a well-ventilated area.
- Empty containers may contain product residue and may be hazardous.
- Minimize generation of dust when sanding, grinding, and cutting the cured product.
- Routine housekeeping should be instituted to ensure that product dusts do not accumulate on surfaces.

7.2 Conditions for safe storage, including any incompatibilities

- Store in original containers or in containers of the same construction material as original containers.

7.3 Specific end use(s)

- No additional data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ceramic materials and wares ^[1]
CAS No. 0066402-68-4

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
No OELs were found for this ingredient.			

^[1] This material is incorporated into the adhesive mixture and exposure via inhalation is not likely to occur unless the cured product is subjected to finishing operations such as sanding, grinding, cutting, etc.

Silicon carbide ^[1]
CAS No. 0000409-21-2

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Australia	10 mg/m ³ (inhalable)	None established	Workplace Exposure Standards for Airborne Contaminants
Austria	10 mg/m ³ (inhalable)	None established	Maximale Arbeitsplatzkonzentrationen (MAK)

			Technische Richtkonzentrationen (TRK)
Belgium	0.1 fiber/cm ³ 10 mg/m ³ (inhalable)	None established	limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Canada – Alberta	0.1 fiber/cm ³ 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Occupational Safety and Health Code
Canada – British Columbia	0.1 fiber/cm ³ 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances
Canada - Ontario	0.1 fiber/cm ³ 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Quebec	10 mg/m ³ (inhalable)	None established	Regulation respecting occupational safety and health
Canada - Saskatchewan	0.1 fiber/cm ³ 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	20 mg/m ³ (inhalable) 6 mg/m ³ (respirable)	The Occupational Safety and Health Regulations
China	8 mg/m ³ (inhalable) 4 mg/m ³ (respirable)	None established	GBZ 2.1-2007, Occupational exposure limits for hazardous agents in the workplace
France	10 mg/m ³ (respirable)	None established	Institut National de Recherche et de Sécurité (INRS)
Ireland	10 mg/m ³ (inhalable) 4 mg/m ³ (respirable)	None established	Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations
New Zealand	10 mg/m ³ (inhalable)	None established	
South Korea	10 mg/m ³ (inhalable)	None established	[Need reference]
Spain	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT)
Switzerland	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Verordnung über die Verhütung von Unfällen und Berufskrankheiten (VUV)", Art. 50 Abs.3
USA (ACGIH)	0.1 fiber/cm ³ 10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	None
USA (NIOSH)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable)	None established	NIOSH Pocket Guide to Chemical Hazards (Recommendations Only)
USA (OSHA)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable)	None established	29 CFR 1910 Subpart Z, Toxic and Hazardous Substances

^[1] This material is incorporated into the adhesive mixture and exposure via inhalation is not likely to occur unless the cured product is subjected to finishing operations such as sanding, grinding, cutting, etc.

Man-made glass fibers (continuous filament glass fibers) ^[1]
CAS No. 0065997-17-3

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Australia	2 mg/m ³ (inhalable dust)	None established	Workplace Exposure Standards for Airborne Contaminants
Canada – British Columbia	1 fiber/cc	None established	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances

Canada - Ontario	1 fiber/cc	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Manitoba	1 fiber/cc	None established	Workplace Safety and Health Act, Part 36
Canada - Quebec	1 fiber/cc	None established	Regulation respecting occupational safety and health
Canada - Saskatchewan	1 fiber/cc (respirable fibers) 5 mg/m ³ (inhalable fraction)	3 fibers/cc (respirable fibers) 10 mg/m ³ (inhalable fraction)	The Occupational Safety and Health Regulations
New Zealand	1 fiber/cc	None established	Workplace Exposure Standards and Biological Exposure Indices
Singapore	10 mg/m ³ (fibrous glass dust)	None established	Workplace Safety and Health (General Provisions) Regulations
USA (ACGIH)	1 fiber/cc	None established	None
USA (NIOSH)	3 fiber/cc	None established	NIOSH Pocket Guide to Chemical Hazards (Recommendations Only)

^[1] This material is incorporated into the adhesive mixture and exposure via inhalation is not likely to occur unless the cured product is subjected to finishing operations such as sanding, grinding, cutting, etc.

Particulates not otherwise classified/regulated (PNOC / PNOR) (may be generated if cured product is subjected to sanding, grinding, cutting, etc.)

CAS No. – Not applicable

Country	Occupational Exposure Limit (OEL) Values		Legal Basis
	Eight Hour TWA	Fifteen Minute STEL	
Austria	10 mg/m ³ (inhalable)	None established	Workplace Exposure Standards for Airborne Contaminants
Belgium	10 mg/m ³	None established	limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Canada - Alberta	10 mg/m ³ (total) 3 mg/m ³ (respirable)	None established	Occupational Safety and Health Code
Canada – British Columbia	10 mg/m ³ (total dust) 3 mg/m ³ (respirable)	None established	Occupational Health and Safety Regulation, Table of Exposure Limits for Chemical and Biological Substances
Canada - Manitoba	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Workplace Safety and Health Act, Part 36
Canada - Ontario	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Regulation 883, Control of Exposure to Biological or Chemical Agents
Canada - Quebec	10 mg/m ³ (total dust)	None established	Regulation respecting occupational safety and health
China	3 mg/m ³ (fiberglass reinforced plastic dust)	None established	GBZ 2.1-2007, Occupational exposure limits for hazardous agents in the workplace
Ireland	10 mg/m ³ (inhalable) 4 mg/m ³ (respirable)	None established	Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations
Malaysia	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
New Zealand	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	Workplace Exposure Standards and Biological Exposure Indices
Singapore	10 mg/m ³ (nuisance)	None established	Workplace Safety and Health (General Provisions) Regulations

South Korea	10 mg/m ³	None established	[Need reference]
USA (ACGIH)	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)	None established	None
USA (OSHA)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable)	None established	29 CFR 1910 Subpart Z, Toxic and Hazardous Substances
United Kingdom	10 mg/m ³ (inhalable) 4 mg/m ³ (respirable)	None established	EH40 Workplace exposure limits

8.2 Exposure controls

Appropriate engineering controls

- Provide adequate general and local exhaust ventilation to control airborne concentrations to below the occupational exposure limit values.
- When sanding, cutting, grinding the cured product, it is recommended that all dust control equipment contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Personal protective equipment

- Eye and face protection
 - Approved safety glasses with side shields (e.g., ANSI Z87, EN166)
- Skin protection
 - Hand protection: Butyl rubber, Nitrile rubber or Neoprene gloves are generally recommended for epoxy resin. Different glove materials, thicknesses, and from different glove manufacturers may provide varying degrees of protection. Temperature and specific use can impact glove effectiveness. Some gloves may be intended to be used only once and then discarded, while others may be used for longer periods of time. The glove supplier should provide the user with information regarding permeability and breakthrough time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
 - Other skin protection: Such clothing as to minimize or eliminate the chance of skin contact with the adhesive product.
- Respiratory protection
 - If ventilation is insufficient to keep airborne concentrations below the occupation exposure limit levels, full or half-mask respirator fitted with organic vapor cartridges and/or particulate filters (for sanding, grinding, cutting, etc. cured material). Filter masks may be of limited use in cases of high or unknown exposure.

Environmental exposure controls

- Do not flush into surface water or sanitary sewer system.
- Do not place directly onto ground.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--------------|-------------------------|
| - Appearance | White / off-white paste |
| - Odor | Amine |

- Odor threshold	No data available
- pH	No data available
- Melting point/freezing point	No data available
- Initial boiling point and boiling range	No data available
- Flash point	No data available
- Evaporation rate	No data available
- Flammability (solid, gas)	No data available
- Upper/lower flammability or explosive limits	No data available
- Vapor pressure	No data available
- Vapor density (air = 1)	No data available
- Relative density	No data available
- Solubility(ies)	No data available
- Partition coefficient: n-octanol/water	No data available
- Auto-ignition temperature	No data available
- Decomposition temperature	No data available
- Viscosity	No data available
- Explosive properties	No data available
- Oxidizing properties	No data available

9.2 Other information

- No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

- No hazardous decomposition expected if product is stored and used as directed.
- Exothermic reactions, including polymerization, may occur in contact with epoxy resins.

10.2 Chemical stability

- Product is stable under normal conditions of storage and use.

10.3 Possibility of hazardous reactions

- Exothermic reactions, including polymerization, may occur in contact with epoxy resins.

10.4 Conditions to avoid

- Excessive heat, flames, and sparks.
- Avoid unintended mixing with base adhesive and epoxy resins.

10.5 Incompatible materials

- Avoid contact with oxidizing materials and unintended mixing with base adhesive and epoxy resins.

10.6 Hazardous decomposition products

- On combustion, may emit toxic fumes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

- Data for ingredients not listed were not found or not sufficient for classification.

Ceramic materials and wares (CAS No. 066402-68-4)

- | | | | |
|--------------|-----|-------------|---------------|
| - Oral | — | — | No data found |
| - Inhalation | Rat | LC50 (4-hr) | > 3.5 mg/L |
| - Dermal | — | — | No data found |

Skin corrosion/irritation

Ceramic materials and wares (CAS No. 066402-68-4)

- Human Not irritating

Silicon carbide (CAS No. 000409-21-2)

- Rat Not irritating

Serious eye damage/irritation

- Data for ingredients not listed were not found or not sufficient for classification.

Ceramic materials and wares (CAS No. 066402-68-4)

- Chicken Not irritating

Respiratory or skin sensitization

- Data for ingredients not listed were not found or not sufficient for classification.

Ceramic materials and wares (CAS No. 066402-68-4)

- | | | |
|--------------|------------|-----------------|
| - Inhalation | — | No data found |
| - Skin | Guinea pig | Not sensitizing |

Germ cell mutagenicity

- Data for ingredients were not found or not sufficient for classification.

Carcinogenicity

- Data for ingredients not listed were not found or not sufficient for classification.

Silicon carbide (CAS No. 000409-21-2)

- When inhaled:
 - ACGIH: Group A2 (suspected human carcinogen)

Reproductive toxicity

- Data for ingredients were not found or not sufficient for classification.

STOT-single exposures

- Data for ingredients not listed were not found or not sufficient for classification.

Man-made glass fibers (CAS No. 0065997-17-3)

- Respiratory system Irritation

STOT-repeated exposures

- Data for ingredients were not found or not sufficient for classification.

Aspiration hazard

- Data for ingredients were not found or not sufficient for classification.
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SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

- Data for ingredients were not found or not sufficient for classification.

Chronic toxicity

- Data for ingredients were not found or not sufficient for classification.

12.2 Persistence and degradability

- Data for ingredients were not found or not sufficient for classification.

12.3 Bioaccumulative potential

- Data for ingredients were not found or not sufficient for classification.

12.4 Mobility in soil

- Data for ingredients were not found or insufficient for classification.

12.5 Results of PBT and vPvB assessment

- None of the ingredients are listed.

12.6 Other adverse effects

- No additional data is available.
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SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Must be disposed of in accordance with local regulatory requirements.
 - Land disposal of uncured product is discouraged and illegal in many jurisdictions.
 - Sewer disposal is discouraged.
 - Empty containers may contain hazardous residue and must be disposed accordingly.
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SECTION 14: Transport information

US Department of Transportation (Road and Rail)
International Carriage of Dangerous Goods by Road (ADR)
International Carriage of Dangerous Goods by Rail (RID)
International Civil Aviation Organization (ICAO) Technical Instructions
International Maritime Dangerous Goods (IMDG) Code
International Carriage of Dangerous Goods by Inland Waterways

- UN3259 AMINES, SOLID, CORROSIVE, N.O.S., MIXTURE (Triethylenetetramine), 8, PG II
-

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The regulatory information provided below may not be comprehensive.

Canada

Controlled Products Regulation (CPR)

- This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Ingredient Disclosure List (IDL)

- All components of this mixture that are on the IDL above their specified concentration are disclosed in this SDS.

United States

EPCRA			CERCLA	RCRA	CAA	OSHA
Section 302 (EHS) TPQ (LB/KG)	Section 304 RQ (LB/KG)	Section 313	RQ (LB/KG)	P/U Codes	112(r) TQ (LB/KG)	Highly Hazardous Chemical
None of the ingredients are listed						

15.2 Chemical safety assessment

- No chemical safety assessment has been carried out for this mixture by the supplier.
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SECTION 16: Other information

Revision history

Revision Number	Revision Date	Revision Description
1	27-APR-2015	Initial SDS creation in conformance with OSHA hazard communication standard (29 CFR 1910.1200), Regulation (EC) No. 1907/2006 (REACH), and UN Globally Harmonized System (GHS).
2	27-MAY-2015	Updated Section 14 – Transportation Information

Legend to abbreviations and acronyms used

- ACGIH American Conference of Governmental Industrial Hygienists
- CAA Clean Air Act
- CFR Code of Federal Regulations (US)
- EN European Standard (French: *Européenne Norme*)
- EPCRA Emergency Planning and Community Right-to-Know Act
- IARC International Agency for Research on Cancer
- IBC Code International Bulk Chemical Code
- MARPOL Marine Pollution
- NIOSH National Institute for Occupational Safety and Health
- NTP National Toxicological Program
- OSHA Occupational Safety and Health Administration (US)
- PBT Persistent Bioaccumulative and Toxic
- RCRA Resource Conservation and Recovery Act
- vPvB very Persistent and very Bioaccumulative

Key literature references and sources for data

- OECD. Organization for Economic Co-Operation and Development. eChemPortal. <http://www.echemportal.org/echemportal/substancesearch/substancesearchlink.action>.
- USEPA. 2006. List of Lists, Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. EPA 550-B-01-003. October 2006.