

SECTION 1. IDENTIFICATION

GHS product identifier	CeraSurf RTV-HT
Chemical name	Not available
Other means of identification	None
Product Type	Solid
Supplier's details	CoorsTek, Inc. 14143 Denver West Pkwy Suite 100 Golden, CO 80401 Phone: +1 303 271 7100 Fax: +1 303 271 7009
Emergency telephone number (with hours of operation)	+1 303 271 7100 8am-5pm MDT (M-F)

SECTION 2. HAZARDS IDENTIFICATION

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	SKIN CORROSION/IRRITATION - Category 1B SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

GHS LABEL ELEMENTS
Hazard pictograms


Signal word Danger

Hazard statements H314 - Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS

Prevention P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P264 - Wash hands thoroughly after handling.

Response P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.

P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.

P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

SECTION 2. HAZARDS IDENTIFICATION, CONTINUED

Storage P405 - Store locked up.

Disposal P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified None known

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture Mixture

Other means of identification Not available

CAS NUMBER/OTHER IDENTIFIERS

CAS number Not applicable

Product code Not available

INGREDIENT NAME	%	CAS NUMBER
Siloxanes and Silicones, di-Me, hydroxy-terminated	60 - 100	70131-67-8
Distillates (petroleum), hydrotreated middle	5 - 10	64742-46-7
Siloxanes and Silicones, di-Me	5 - 10	63148-62-9
Silicon dioxide	5 - 10	7631-86-9
Triacetoxyethylsilane	1 - 5	17689-77-9
Methylsilanetriyl triacetate	1 - 5	4253-34-3
Iron oxide	1 - 5	1332-37-2
Titanium dioxide	1 - 5	13463-67-7
Aluminium	1 - 5	7429-90-5
Carbon black	0.1 - 1	1333-86-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES

**DESCRIPTION OF NECESSARY
FIRST AID MEASURES**

- Eye contact** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes while holding the eyelid(s) open. Obtain medical attention.
- Inhalation** If symptoms are experienced remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
- Skin contact** If irritation does occur flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.
- Ingestion** If irritation or discomfort occurs, obtain medical advice.

**MOST IMPORTANT SYMPTOMS/EFFECTS,
ACUTE AND DELAYED**

General Not available

Potential acute health effects

- Eye contact** Causes serious eye damage
- Inhalation** May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor concentration is attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion, or loss of coordination.
- Skin contact** Causes severe burns
- Ingestion** May cause burns to mouth, throat, and stomach. Low ingestion hazard in normal use.

Over-exposure signs/symptoms

- Eye contact** Adverse symptoms may include the following: pain, watering, redness
- Inhalation** No known significant effects or critical hazards
- Skin contact** Adverse symptoms may include the following: pain or irritation, redness, blistering may occur
- Ingestion** Adverse symptoms may include the following: stomach pains
Overexposure by ingestion may injure the following organ(s): Nervous system, Digestive system.

**INDICATION OF IMMEDIATE MEDICAL
ATTENTION AND SPECIAL TREATMENT
NEEDED, IF NECESSARY**

- Notes to physician** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** No specific treatment.
- Protection of first-aiders** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. See toxicological information (Section 11)

SECTION 5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable extinguishing media	On large fires use dry chemical, foam, or water spray. On small fires use carbon dioxide (CO ₂), dry chemical or water spray. Water can be used to cool fire exposed containers.
Unsuitable extinguishing media	None known
Specific hazards arising from the chemical	No specific fire or explosion hazard
Hazardous thermal decomposition products	Carbon oxides and traces of incompletely burned carbon compounds; Silicon dioxide; Formaldehyde; Metal oxides; Nitrogen oxides; Chlorine compounds.
Special protective actions for fire-fighters	No special measures are required.
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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT & EMERGENCY PROCEDURES

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel”.
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 & MATERIALS FOR CONTAINMENT AND CLEANING UP

Spill	Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents, or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.
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SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Protective measures Use with adequate ventilation. Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact. Avoid breathing vapor, mist, dust, or fumes. Keep container closed. Do not take internally.

Advice on general occupational hygiene 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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities Use reasonable care and store away from oxidizing materials. Keep container closed and store away from water or moisture. This material in its finely divided form presents an explosion hazard. Follow NFPA 654 (for chemical dusts) or 484 (for metal dusts) as appropriate for managing dust hazards to minimize secondary explosion potential.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

Occupational exposure limits

INGREDIENT NAME	EXPOSURE LIMITS
Silicon	<p>OSHA PEL (United States, 2/2013) TWA: 15 mg/m³ 8 hours. Form: Total dust</p> <p>ACGIH TLV (United States, 4/2014). TWA: 10 mg/m³ 8 hours.</p>
Carbon black	<p>ACGIH TLV (United States, 4/2014). TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction.</p> <p>NIOSH REL (United States, 10/2013). TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours.</p> <p>OSHA PEL (United States, 2/2013). TWA: 3.5 mg/m³ 8 hours.</p>

Appropriate engineering controls Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm
Local Ventilation: Recommended
General Ventilation: Recommended

Environmental exposure controls Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION, CONTINUED
INDIVIDUAL PROTECTION MEASURES

Hygiene measures Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Follow good industrial hygiene practice.

Eye/face protection Use proper protection – safety glasses as a minimum.

SKIN PROTECTION

Hand protection Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection Not required under normal conditions of use

Other skin protection Not required under normal conditions of use

RESPIRATORY PROTECTION Respiratory protection is not needed under ambient conditions. If vapor is generated when material is heated or handled, the following is advised. General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
APPEARANCE

Physical state Solid [Paste]

Color Red

Odor Acetic acid

Odor threshold Not applicable

pH Not applicable

Melting point Not available

Boiling point Not available

Flash point Closed cup: >100°C (>212°F)

Evaporation rate Not applicable

Flammability (solid, gas) Not available

Lower and upper explosive (flammable) limits Not applicable

Vapor pressure Not applicable

Vapor density Not applicable

Relative density 1.04

Solubility Insoluble in the following materials: cold water and hot water

Partition coefficient: n- octanol/water Not applicable

Auto-ignition temperature Not flammable

Decomposition temperature Not available

Viscosity Not applicable

Volatility Not available

SECTION 10. STABILITY AND REACTIVITY

- Reactivity** No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** The product is stable.
- Possibility of hazardous reactions** Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** None known
- Incompatible materials** Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form.
- Hazardous decomposition products** Carbon oxides and traces of incompletely burned carbon compounds; Silicon dioxide; Formaldehyde; Metal oxides; Nitrogen oxides; Chlorine compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity	PRODUCT/INGREDIENT NAME	RESULT	SPECIES	DOSE	EXPOSURE
	Methylsilanetriyl triacetate	LD50 Oral	Rat	2060 mg/kg	-
Carbon black	LD50 Oral	Rat	>15400 mg/kg	-	

Irritation/Corrosion	PRODUCT/INGREDIENT NAME	RESULT	SPECIES	DOSE	EXPOSURE	OBSERVATION
	Titanium dioxide	Skin - Mild irritant	Human	2060 mg/kg	72 hours 300 µg Intermittent	-

Sensitization There is no data available.

Carcinogenicity	NAME	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
	Silicon dioxide	-	3	-	-	-	-
Titanium dioxide	-	2B	-	A4	-	+	
Aluminium	-	-	-	A4	-	-	
Carbon black	-	2B	-	A3	-	+	

Specific target organ toxicity (single exposure) There is no data available.

Specific target organ toxicity (repeated exposure) There is no data available.

Aspiration hazard There is no data available.

Information on the likely routes of exposure Routes of entry anticipated: Inhalation

SECTION 11. TOXICOLOGICAL INFORMATION, CONTINUED

POTENTIAL ACUTE HEALTH EFFECTS

- Eye contact** Causes serious eye damage
- Inhalation** May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor concentration is attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion, or loss of coordination.
- Skin contact** Causes severe burns
- Ingestion** May cause burns to mouth, throat and stomach. Low ingestion hazard in normal use.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

- Eye contact** Adverse symptoms may include the following: pain, watering, redness
- Inhalation** No known significant effects or critical hazards
- Skin contact** Adverse symptoms may include the following: pain or irritation, redness, blistering may occur
- Ingestion** Adverse symptoms may include the following: stomach pains
Overexposure by ingestion may injure the following organ(s): Nervous system, Digestive system

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT AND LONG TERM EXPOSURE

Short term exposure

- Potential immediate effects** No known significant effects or critical hazards
- Potential delayed effects** No known significant effects or critical hazards

Long term exposure

- Potential immediate effects** No known significant effects or critical hazards
- Potential delayed effects** No known significant effects or critical hazards

POTENTIAL CHRONIC HEALTH EFFECTS

- General** No known significant effects or critical hazards
- Carcinogenicity** No known significant effects or critical hazards
- Mutagenicity** No known significant effects or critical hazards
- Teratogenicity** No known significant effects or critical hazards
- Developmental effects** No known significant effects or critical hazards
- Fertility effects** No known significant effects or critical hazards

NUMERICAL MEASURE OF TOXICITY

Acute toxicity estimates

ROUTE	ATE VALUE
Oral	6265 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Toxicity	TITANIUM DIOXIDE		
	RESULT	SPECIES	EXPOSURE
	Acute EC50 5.83 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 3 mg/L Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 1000 mg/L Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 0.984 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours

Persistence and degradability There is no data available.

Bioaccumulative potential	PRODUCT/INGREDIENT NAME	LogP _{ow}	BCF	POTENTIAL
		Oral	-	352

MOBILITY IN SOIL

Soil/water partition coefficient (K_{oc}) Not available

Other adverse effects No known significant effects or critical hazards

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions, and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

	DOT	IMDG	IATA
UN Number	Not regulated	Not regulated	Not regulated
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No	No	No
Additional information	-	-	-

Special precautions for user Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available

SECTION 15. REGULATORY INFORMATION

U.S. Federal regulations **TSCA 8(a) PAIR:** Siloxanes and Silicones, di-Me, hydroxy-terminated; Siloxanes and Silicones, di-Me
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances Not listed

Clean Air Act Section 602 Class II Substances Not listed

DEA List I Chemicals (Precursor Chemicals) Not listed

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304 No products were found.

SARA 304 RQ Not applicable

SECTION 15. REGULATORY INFORMATION, CONTINUED
SARA 311/312 Immediate (acute) health hazard

NAME	%	FIRE HAZARD	SUDDEN RELEASE OF PRESSURE	REACTIVE	IMMEDIATE (ACUTE) HEALTH HAZARD	DELAYED (CHRONIC) HEALTH HAZARD
Triacetoxyethylsilane	1-5	No	No	No	Yes	No
Methylsilanetriyl triacetate	1-5	No	No	No	Yes	No
Titanium dioxide	1-5	No	No	No	No	Yes
Carbon black	0.1-1	No	No	No	No	Yes

SARA 313

	PRODUCT NAME	CAS NUMBER	%
Form R - Reporting requirements	Aluminium	7429-90-5	1-5
Supplier notification	Aluminium	7429-90-5	1-5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

REGULATIONS

Massachusetts The following components are listed: Silicon dioxide; Titanium dioxide; Aluminium.

New York None of the components are listed.

New Jersey The following components are listed: Titanium dioxide; Aluminium; Carbon black

Pennsylvania The following components are listed: Silicon dioxide; Titanium dioxide; Aluminium; Carbon black

California Prop. 65 WARNING: This product contains a chemical known to the State of California to cause cancer.

INGREDIENT NAME	CANCER	REPRODUCTIVE	NO SIGNIFICANT RISK LEVEL	MAX. ACCEPTABLE DOSAGE LEVEL
Titanium dioxide	Yes	No	No	No
Carbon black	Yes	No	No	No

SECTION 16. OTHER INFORMATION

Date of issue mm/dd/yyyy 07/30/2015

Version 1

Prepared by KMK Regulatory Services Inc.

Key to abbreviations ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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