



SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY INFORMATION

Product Name(s): FLEXSEAL
Product Code(s): FX-5
Uses: Elastomeric coating for insulation and HVAC related.
Company: Controlled Release Technologies, Inc.
Address: 1016 Industry Drive; Shelby, NC 28152; USA
Telephone Number: (704) 487-0878 Fax Number: (704) 487-0877
Emergency Telephone Number: ChemTel Inc. 1- (800) 255-3924; + 01 (813) 248-0585 (International)
Date Issued: April 30, 2015 Date Revised: April 30, 2015

This SDS complies with the OSHA Hazard Communication Standard 29CFR1910.1200 as revised in May 2012 (GHS). It may not meet requirements in other countries.

SECTION 2 HAZARDS IDENTIFICATION

GHS Classification: **WARNING**
Carcinogen (Category 2)
Eye Irritation (Category 2B)
Skin Irritation (Category 2)
Aquatic Chronic Toxicity (Category 4)



GHS Hazard Statements: Suspected of causing cancer
Causes eye irritation
Causes skin irritation
May cause long lasting harmful effects to aquatic life

GHS Precautionary Statements: Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands/skin thoroughly after handling.
Avoid release to the environment

Response:
If exposed or concerned: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin: Wash with plenty of water/soap.
Take off contaminated clothing and wash it before reuse.
Collect spillage.
Storage:
Store locked up.
Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.

GHS Assessment: Approximately 53% of this mixture consists of ingredient(s) of unknown acute toxicity.
Approximately 59% of the mixture consists of ingredient(s) of unknown hazards to the

SECTION 2 HAZARDS IDENTIFICATION

aquatic environment.

SECTION 3 COMPOSITION / INGREDIENTS

Component	CAS Number	EC Number	Concentration
Polymer(s)	Proprietary	---	15 - 30%
Water	7732-18-5	231-791-2	30 - 45%
Calcium carbonate	1317-65-3	215-279-6	20 - 30%
Zinc oxide	1314-13-2	215-222-5	1 - 5%
Titanium dioxide	13463-67-7	236-675-5	2 - 10%
Halogenated phenyl alkane	Proprietary	---	2 - 10%
Propylene glycol	57-55-6	200-338-0	1 - 5%

Trade Secret Claims: Specific chemical identity and/or exact percentage (concentration) of components has been withheld as a trade secret.

SECTION 4 FIRST AID MEASURES

- First Aid - Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention, if irritation develops.
- First Aid - Skin: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately if irritation or rash develops and/or persists. Wash contaminated clothing before reuse.
- First Aid - Ingestion: If swallowed and feel unwell, call a physician or poison control center. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.
- First Aid - Inhalation: If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.
- Important Symptoms / Effects – Acute and Delayed: Tissue redness/irritation, nausea, breathing difficulty.
- Advice to Physician: Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

- Extinguishing Media: Treat surrounding material. Water spray, dry chemical, carbon dioxide, or foam is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
- Specific Hazards: This product is not combustible. This product may give rise to hazardous vapors in a fire. Vapors/fumes may be irritating, corrosive and/or toxic.
- Protective equipment and procedures for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.
- Additional Advice: None.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill Procedures:	Wipe up spills with an absorbent towel/material and transfer into suitable containers for recovery or disposal. Finally clean up residual with an appropriate solvent (e.g. acetone), as this product is not soluble in water.
Personal Precautions:	Wear suitable protective clothing.
Environmental Precautions:	Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

SECTION 7 HANDLING AND STORAGE

Handling:	Wear appropriate personal protection (See Section 8) when handling this material. The work area must be equipped with a safety shower and eye wash station. If exposed to the solution, avoid contact with skin and eyes. Wash thoroughly after handling solution.
Storage:	Keep container(s) tightly closed. Use and store this material at temperatures between 15.5 and 32.2°C (60-90°F) away from heat, direct sunlight and hot metal surfaces. Keep from freezing. Keep away from any incompatible materials (see Section 10).
Additional Advice:	Store in original container. Store as directed by the manufacturer.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Standards:	Exposure limits are listed below, if they exist.
Polymer(s):	None.
Water:	None.
Calcium carbonate:	ACGIH TLV: 10 mg/m ³ TWA. UK: 4 mg/m ³ TWA (respirable). UK: 10 mg/m ³ TWA (total inhalable). OSHA PEL: 5 mg/m ³ TWA (respirable). OSHA PEL: 15 mg/m ³ TWA (total dust).
Zinc oxide:	ACGIH TLV: 2 mg/m ³ TWA (respirable). ACGIH TLV: 10 mg/m ³ STEL (respirable). OSHA PEL: 5 mg/m ³ TWA (respirable). OSHA PEL: 15 mg/m ³ TWA (total dust).
Titanium dioxide:	ACGIH TLV: 3 mg/m ³ TWA (respirable). ACGIH TLV: 10 mg/m ³ TWA (inhalable). UK: 4 mg/m ³ TWA (respirable). UK: 10 mg/m ³ TWA (total inhalable). OSHA PEL: 15 mg/m ³ TWA (total dust).
Halogenated phenyl alkane:	None.
Propylene glycol:	None.
Engineering Control Measures:	Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.
Respiratory Protection:	A NIOSH certified air purifying respirator with an organic cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits. An OSHA approved Category 21C air-purifying respirator equipped with a full facepiece and high efficiency particulate filters or a Category 21C powered air purifying respirator is required where

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

	exposure to particles is likely.
Hand Protection:	The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation and skin damage (see glove manufacturer literature for information on permeability).
Eye Protection:	Approved eye protection (safety glasses with side-shields or goggles) to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Body Protection:	Impervious clothing should be worn as needed to prevent skin contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	White
Odor:	Characteristic
Odor Threshold:	Not available.
pH:	Not available.
Melting Point/Range (°C/°F):	Not available.
Boiling Point/Range (°C/°F):	Not available.
Flash Point (PMCC) (°C/°F):	Not flammable.
Evaporation Rate:	Not available.
Flammability / Explosivity Limits in Air (%):	Not available.
Vapor Pressure:	Not available.
Vapor Density (Air = 1):	Not available.
Relative Density:	1.3 g/cm ³ (25°C)
Solubility in Water:	Partly soluble.
Partition Coefficient:	Not available.
Autoignition Temperature (°C/°F):	Not available.
Decomposition Temperature (°C/°F):	Not available.
Viscosity:	127 KU (paint viscosity)
Explosive Properties:	None.
Oxidizing Properties:	None.
Volatile Organic Content (VOC) (g/l):	ca. 20 - 40 g/l (as defined by 40CFR51.100)

SECTION 10 STABILITY AND REACTIVITY

Reactivity:	Product will not undergo additional reaction.
Stability:	Stable under normal storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Contact with incompatible materials, excessive heat.
Incompatibilities:	Oxidizing agents, strong acids, strong bases.
Hazardous Decomposition Products:	Oxides of carbon, oxides of nitrogen, oxides of phosphorus, bromine, hydrogen bromide, metal oxides, aliphatic and aromatic compounds,

SECTION 10 STABILITY AND REACTIVITY

toxic by-products.

SECTION 11 TOXICOLOGICAL INFORMATION

If available, toxicity data for the product is given; otherwise component data is listed.

Acute Toxicity:	This product is not expected to be appreciably toxic. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) Oral LD50 (rat) > 5000 mg/kg; Inhalation LC50 (mouse) > 5-7 mg/L (4 hr) (Titanium dioxide) Oral LD50 (rat) > 10,000 mg/kg; Dermal LD50 (rabbit) > 10,000 mg/kg; Inhalation LC50 (rat) > 6.8 mg/L (4 hr) (Halogenated phenyl alkane) Oral LD50 (rat) > 5000 mg/kg; Dermal LD50 (rabbit) > 2000 mg/kg (Propylene glycol) Oral LD50 (rat) 21,000 mg/kg; Dermal LD50 (rabbit) 20,800 mg/kg
Skin Corrosion / Irritation:	The product may be irritating to the skin. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) Slightly irritating to skin (guinea pig / rabbit). (Titanium dioxide) Irritating to skin (human). (Halogenated phenyl alkane) Non-irritating to skin (rabbit). (Propylene glycol) Non-irritating to skin (rabbit).
Serious Eye Damage / Irritation:	The product may be irritating to the eyes. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) Slightly irritating to eyes (rabbit) (Titanium dioxide) No data. (Halogenated phenyl alkane) Non-irritating to eye (rabbit). (Propylene glycol) Non-irritating to eyes (rabbit).
Respiratory or Skin Sensitization:	The product is not expected to be dermally sensitizing. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) Not dermally sensitizing (human patch testing). (Titanium dioxide) No data. (Halogenated phenyl alkane) Not dermally sensitizing (guinea pig). (Propylene glycol) Not dermally sensitizing (guinea pig).
Mutagenicity:	This product is not expected to be mutagenic. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) Not genotoxic in Ames and E. coli testing. Positive results have been observed in mouse lymphoma and Syrian hamster embryo systems. Slight increase in chromosomal aberrations in rat bone marrow was reported after exposure to zinc oxide by inhalation. (Titanium dioxide) Not genotoxic in Ames and Syrian hamster embryo cell testing. (Halogenated phenyl alkane) Not mutagenic (Ames and mammalian chromosome aberration test systems). (Propylene glycol) No evidence of mutagenicity (Ames).
Carcinogenicity:	This product may be carcinogenic.

SECTION 11 TOXICOLOGICAL INFORMATION

	(Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) Inadequate evidence in humans and animals. (Titanium dioxide) Limited evidence for carcinogenicity in animals. There is inadequate evidence in humans. Studies related to inhalation of airborne particles. (Halogenated phenyl alkane) May cause cancer due to significant chronic dermal and inhalation exposures (EPA assessment based on similar compounds). (Propylene glycol) Not an animal carcinogen.
Reproductive / Developmental Toxicity:	This product is not expected to be developmentally harmful. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) In diets of 0.5% in rats there was no retardation of growth; at 1% retarded growth was observed. In pregnant rats, dietary zinc oxide at 4000 ppm zinc causes resorption and death of fetuses. (Titanium dioxide) No data. (Halogenated phenyl alkane) No evidence of maternal toxicity, developmental toxicity or teratogenicity was observed at dosage levels up to 1250 mg/kg/day (rabbit). (Propylene glycol) No adverse effects on reproduction were found when oral concentrations were <7.5% (rat).
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Single Exposure:	(Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) No data. (Titanium dioxide) No data. (Halogenated phenyl alkane) No data. (Propylene glycol) Central nervous system effects have been observed in mice.
Chronic/Subchronic Toxicity: Specific Target Organ/Systemic Toxicity – Repeated Exposure:	(Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) No data. (Titanium dioxide) No data. (Halogenated phenyl alkane) In a 28 day study of orally fed rats an NOEL was established at greater than or equal to 1250 mg/kg/day (the highest dose tested). In a similar 90 day study, an NOAEL was 1000 mg/kg/day. (Propylene glycol) Degenerative changes to the kidneys and liver have been observed.
Aspiration Hazard:	This product is not expected to be an aspiration hazard.
Additional Information:	None.

SECTION 12 ECOLOGICAL INFORMATION

If available, ecological data for the product is given; otherwise component data is listed.

Acute Ecotoxicity:	This product is expected to be harmful to aquatic species. (Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) EC50 (tadpole) 3.2 mg/l/48 hr; LD0 (carp, forcefed) 228-262 mg/l/52 hr. (Titanium dioxide) No data.
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SECTION 12 ECOLOGICAL INFORMATION

	(Halogenated phenyl alkane) LC50 (Rainbow trout) > 110 mg/l/96 hr; LC50 (Daphnia magna) > 110 mg/l/48 hr. (Propylene glycol) LC50 (fathead minnows) 54.9 g/l/96h; EC50 (green algae) 19,000 mg/l/96h; EC50 (Daphnia magna) > 43,500 mg/l/48h.
Mobility:	(Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) No data. (Titanium dioxide) No data. (Halogenated phenyl alkane) No data. (Propylene glycol) Expected to have very high mobility in soil based upon an estimated Koc of 8.
Persistence/Degradability:	(Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) No data. (Titanium dioxide) Not biodegradable. (Halogenated phenyl alkane) Not readily biodegradable. (Propylene glycol) Readily biodegradable.
Bioaccumulation:	(Polymer(s)) No data. (Water) No data. (Calcium carbonate) No data. (Zinc oxide) No data. (Titanium dioxide) No data. (Halogenated phenyl alkane) No data. (Propylene glycol) An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.
Other adverse effects:	None.

SECTION 13 DISPOSAL CONSIDERATION

Environmental precautions:	Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.
Product Disposal:	Dispose in accordance with all local, state (provincial), and federal regulations. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.
Container Disposal:	Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

SECTION 14 TRANSPORT INFORMATION

DOT Proper Shipping Name:	Not regulated
UN Number:	None.
UN Class:	None.
UN Packaging Group:	None.
Reportable Quantity:	None.
Marine Pollutant:	None.

SECTION 14 TRANSPORT INFORMATION

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Consult current IATA Regulations prior to shipping by air.

SECTION 15 REGULATORY INFORMATION

US Toxic Substance Control Act:	All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Canadian Domestic Substance List:	One or more component(s) of this product are not listed on the Canadian Domestic List. Limited quantities may be permitted.
EU Existing Inventory of Chemical Substances:	One or more component(s) of this product are not in compliance with the inventory listing requirements of the E.U. Existing Inventory of Chemical Substances (EINECS). One or more component(s) of this product have not been pre-listed under REACH. Limited quantities may be permitted.
TSCA Sec.12(b) Export Notification:	This product contains a chemical at or above de minimis concentrations which requires reporting: - Halogenated phenyl alkane (Section 5 SNUR - CFR 40 § 721.536)
Canadian WHMIS Classification:	D.2.A, D.2.B This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.
Massachusetts Right-To-Know:	This product contains materials subject to disclosure under the Massachusetts' Right-To-Know Law: - Calcium carbonate - Zinc oxide (fume) - Titanium dioxide
New Jersey Right-To-Know:	This product contains materials subject to disclosure under the New Jersey's Right-To-Know Law: - Calcium carbonate (4001) - Zinc oxide (2037) - Titanium dioxide (1861)
Pennsylvania Right-To-Know:	This product contains materials subject to disclosure under the Pennsylvania's Right-To-Know Law: - Calcium carbonate - Zinc oxide (fume) - Titanium dioxide
California Proposition 65:	This product contains materials which the State of California has found to cause cancer, birth defects or other reproductive harm: - Titanium dioxide (airborne particles) - Diphenyl ketone (< 0.2%) - Acrylonitrile (trace) - Dioxane, 1,4- (trace) - Ethylene oxide (trace) - Lead (trace) - Cadmium (trace)
SARA TITLE III-Section 311/312 Categorization (40 CFR 370):	Immediate (acute), delayed (chronic) hazard
SARA TITLE III-Section 313 (40 CFR 372):	This product contains materials which are listed in Section 313 at or above de minimis concentrations: - Zinc oxide (as Zinc compound)
CERCLA Hazardous	This product contains materials subject to reporting under CERCLA and

SECTION 15 REGULATORY INFORMATION

Substance (40 CFR 302)	Section 304 of EPCRA: - Zinc oxide (as Zinc compound)	
Water Hazard Class (WGK):	This product is slightly water-endangering (WGK=1).	
Other Chemical Inventories:	Australia (AICS):	One or more component(s) not listed.
	China (IECSC):	One or more component(s) not listed.
	Japan (ENCS):	One or more component(s) not listed.
	Korea (KCI):	One or more component(s) not listed.
	Philippines (PICCS):	One or more component(s) not listed.

SECTION 16 OTHER INFORMATION

NFPA Rating - HEALTH:	1		
NFPA Rating - FIRE:	1		
NFPA Rating - REACTIVITY:	0		
NFPA Rating - SPECIAL:	NONE		
SDS Date Issued:	April 30, 2015		
SDS Current Version:	1.0	Version Date:	April 30, 2015
SDS Revision History:	v1.0 Initial version.		
Abbreviations:	GHS: Globally Harmonized System of Classification and Labeling of Chemicals CAS#: Chemical Abstract Services Number ACGIH: American Conference of Governmental Industrial Hygienists OSHA: Occupational Safety and Health Administration NFPA: National Fire Protection Association DOT: US Department of Transportation RCRA: US Resource Conservation and Recovery Act TLV: Threshold Limit Value TWA: Time-Weighted Average PEL: Permissible Exposure Limit STEL: Short Term Exposure Limit WEEL: Workplace Environmental Exposure Levels AIHA: American Industrial Hygiene Association NTP: National Toxicology Program IARC: International Agency for Research on Cancer R: Risk S: Safety LD50: Lethal Dose 50% LC50: Lethal Concentration 50% EC50: Effective Concentration 50% BCF: Bioconcentration Factor BOD: Biological Oxygen Demand Koc: Soil Organic Carbon Partition Coefficient. Tlm: Median Tolerance Limit		
Key References:	United States National Library of Medicine's TOXNET Patty's Toxicology, 5 th Edition European Commission's Institute for Health and Consumer Protection American Conference of Governmental Industrial Hygienists International Agency for Research on Cancer United States National Toxicology Program United States Occupational Safety and Health Administration United States Department of Transportation Supplier Material Safety Data Sheets		

SECTION 16 OTHER INFORMATION

Disclaimer:

The data contained herein is based on information that the company believes to be reliable, but no expressed or implied warranty is made with regard to the accuracy of such data or its suitability for a given situation. Such data relates only to the specific product described and not to such products in combination with any other product and no agent of the company is authorized to vary any of such data. The company and its agents disclaim all liability for any action taken or foregone on reliance upon such data.

Prepared by:

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