

MATERIAL SAFETY DATA SHEET

Product Trade Name: CRB-7R

Revision Date: 21-Dec-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: CRB-7R
Synonyms: None
Chemical Family: Resin
Application: Resin

Manufacturer/Supplier: Halliburton Energy Services
 P.O. Box 1431
 Duncan, Oklahoma 73536-0431
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Silicon carbide	409-21-2	10 - 30%	TWA: 10 mg/m ³ TWA: 3 mg/m ³ TWA: 0.1 fiber/cm ³	15 mg/m ³
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol)	9003-36-5	10 - 30%	Not applicable	Not applicable
Aluminum oxide	1344-28-1	10 - 30%	10 mg/m ³	15 mg/m ³
Oxirane, 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis-	54208-63-8	1 - 5%	Not applicable	Not applicable

3. HAZARDS IDENTIFICATION

Hazard Overview: May cause eye, skin, and respiratory irritation. May cause allergic skin reaction.

4. FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Skin: Wash with soap and water. Get medical attention if irritation persists.

Eyes: Check for and remove contact lenses if present. In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Ingestion Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F): 200
Flash Point/Range (C): 93.3
Flash Point Method: Not Determined
Autoignition Temperature (F): Not Determined
Autoignition Temperature (C): Not Determined
Flammability Limits in Air - Lower (%): Not Determined
Flammability Limits in Air - Upper (%): Not Determined

Fire Extinguishing Media Water fog, carbon dioxide, foam, dry chemical. Use water spray to cool fire exposed surfaces.

Special Exposure Hazards Heating resin in the presence of air may cause slow oxidative decomposition. Some curing agents may cause exothermic reactions, which may lead to runaway polymerization.

Special Protective Equipment for Fire-Fighters Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

NFPA Ratings: Health 2, Flammability 1, Reactivity 0
HMS Ratings: Health 2, Flammability 1, Physical Hazard 0, PPE: Cq

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption Contain spill with sand or other inert materials. Scoop up and remove. Isolate spill and stop leak where safe.

7. HANDLING AND STORAGE

Handling Precautions Launder contaminated clothing before reuse. Immediately remove wet clothing. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Avoid breathing mist. Material is slippery underfoot.

Storage Information Store away from acids. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Store between 59 F (15 C) and 84 F (29 C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator.
Hand Protection	Polyvinylchloride gloves.
Skin Protection	Rubber apron. Rubber boots.
Eye Protection	Chemical goggles; also wear a face shield if splashing hazard exists.
Other Precautions	Eyewash fountains and safety showers must be easily accessible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Semi-Solid
Color:	Dark gray
Odor:	Hydrocarbon
pH:	Not Determined
Specific Gravity @ 20 C (Water=1):	Not Determined
Density @ 20 C (lbs./gallon):	Not Determined
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	> 95
Boiling Point/Range (C):	> 35
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	Not Determined
Vapor Density (Air=1):	> 1
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Insoluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Strong oxidizers. Strong acids. Strong alkalis.
Hazardous Decomposition Products	Carbon monoxide and carbon dioxide. Aldehydes. Organic acid vapors. Oxides of nitrogen.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure Eye or skin contact, inhalation.

Symptoms related to exposure

Acute Toxicity

Inhalation May cause respiratory irritation.
Eye Contact Causes severe eye irritation.
Skin Contact May cause an allergic skin reaction. May cause moderate skin irritation.
Ingestion None known

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 1% are chronic health hazards.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silicon carbide	409-21-2	No data available	No data available	No data available
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol)	9003-36-5	2000 mg/kg (Rat) >5000 mg/kg (Rat)	400 mg/kg (Rat) >2000 mg/kg (Rat)	No data available
Aluminum oxide	1344-28-1	5000 mg/kg (Rat)	No data available	No data available
Oxirane, 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis-	54208-63-8	No data available	No data available	No data available

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

Ecotoxicity Product

Acute Fish Toxicity: May be toxic to aquatic life.
Acute Crustaceans Toxicity: Not determined
Acute Algae Toxicity: Not determined

Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Silicon carbide	409-21-2	No information available	No information available	No information available	No information available
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol)	9003-36-5	EC50 (72h) >1.8 mg/L (Pseudokirchneriella subcapitata) NOELr (72h) 1000 mg/L (Pseudokirchneriella subcapitata) (similar substance)	LC50 (96h) 2 mg/L (Oncorhynchus mykiss)	No information available	EC50 (48h) 1.6 mg/L (Daphnia magna) NOEC (21d) 0.3 mg/L (Daphnia magna) (similar substance)
Aluminum oxide	1344-28-1	No information available	No information available	No information available	No information available
Oxirane, 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis-	54208-63-8	No information available	No information available	No information available	No information available

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Silicon carbide	409-21-2	No information available

Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol	9003-36-5	(16% @ 28d)
Aluminum oxide	1344-28-1	The methods for determining biodegradability are not applicable to inorganic substances.
Oxirane, 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis	54208-63-8	No information available

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Silicon carbide	409-21-2	No information available
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol	9003-36-5	2.7-3.6
Aluminum oxide	1344-28-1	No information available
Oxirane, 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis	54208-63-8	No information available

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

No information available.

Substances	PBT and vPvB assessment
Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol	PBT substance

12.6. Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

US DOT

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: , Marine Pollutant
NAERG: NAERG 171

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG u10

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: , Marine Pollutant

IMDG/IMO

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: , Marine Pollutant
EMS: EmS F-A, S-F

IATA/ICAO

UN Number: UN3082
UN Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)
Transport Hazard Class(es): 9
Packing Group: III
Environmental Hazards: , Marine Pollutant

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

Special Precautions for User: None

Labels: Miscellaneous - Class 9
Marine Pollutant

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory All components listed on inventory or are exempt.

EPA SARA Title III Extremely Hazardous Substances Not applicable

EPA SARA (311,312) Hazard Class Acute Health Hazard

EPA SARA (313) Chemicals This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

EPA CERCLA/Superfund Reportable Spill Quantity Not applicable.

EPA RCRA Hazardous Waste Classification If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

California Proposition 65 All components listed do not apply to the California Proposition 65 Regulation.

MA Right-to-Know Law One or more components listed.

NJ Right-to-Know Law One or more components listed.

PA Right-to-Know Law One or more components listed.

Canadian Regulations

Canadian DSL Inventory Product contains one or more components not listed on the inventory.

WHMIS Hazard Class D2B Toxic Materials

16. OTHER INFORMATION

The following sections have been revised since the last issue of this SDS

Not applicable

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement

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*****END OF MSDS*****