



MATERIAL SAFETY DATA

CSL 504 Black Hi-Temp Silicone Rubber Gasket Material

Reviewed March 23, 2010

MSDS NO. 171

I PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	CSL 504 Black Hi-Temp Silicone Rubber Gasket Material
CHEMICAL NAME	Not Applicable
CHEMICAL FORMULA	Silicone Sealant
MOLECULAR WEIGHT	Polymer
MATERIAL USES	Formed in place silicone rubber gasket for high temperature applications.
MANUFACTURER	CSL Silicones Inc. 144 Woodlawn Road West Guelph, ON N1H 1B5 Canada
TELEPHONE	1-519-836-9044
FAX	1-519-836-9069
EMERGENCY TELEPHONE	1-519-836-9044

II HAZARDS IDENTIFICATION

A. HAZARDOUS INGREDIENTS OF MATERIAL

Product releases acetic acid vapours when in contact with water or humid air. Ensure adequate ventilation during use to control acetic acid within exposure limit (OSHA PEL = 10 ppm) or use respirator.

B. EFFECTS OF CHRONIC EXPOSURE

Health Effects	Pulmonary Edema, Dermatitis
Toxicological Data	LD50 not established
Carcinogenicity Data	The ingredients of this product are not listed as carcinogens by National Toxicology Program, and have not been evaluated by the International Agency for Research on Cancer or the American Conference of Government Industrial Hygienists.
Reproductive Data	Octamethylcyclotetrasiloxane (in concentration of 500 to 700 ppm) has shown reproductive effects in laboratory animals. No available information of adverse reproductive effects of other ingredients of this product.
Mutagenicity Data	No information available and no adverse mutagenic effects are anticipated
Teratogenicity Data	No information available and no adverse teratogenic effects are anticipated
Synergistic Products	None Known

C. EFFECTS OF ACUTE EXPOSURE

Inhalation	Not normally an inhalation hazard. Acetic acid vapors (by-product of curing reaction) may be irritating. Inhalation of concentrated vapors may cause serious damage to the lining of the nose, throat and lungs. Bronchopneumonia and pulmonary edema may develop following acute exposure.
Eyes	Concentrated acetic acid vapors can cause moderate irritation and burns.

Skin Repeated exposure to acetic acid may cause irritation and thickening of the skin and dark coloration. Dermatitis may develop following acute overexposure.

Ingestion Very low oral toxicity. May cause irritation and obstruction to gastro-intestinal tract.

D. HAZARD SYMBOLS



Harmful if swallowed

III COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	%	CAS NUMBER	ACGIH TLV	LD50
Pigment Black	5-15	11115-91-6	5 ppm	Not Established
Acetoxy Silane	1-5	17689-77-9	10 ppm	3000 mg/kg oral/rat
Amorphous Silica	3-7	7631-86-9	5 ppm	>5000 mg/kg oral/rat
Octamethylcyclo-Tetrasiloxane	0.1-2	556-67-2	10 ppm	2000 mg/kg oral rat 36 mg/L inhal/ rat 4 hours

IV FIRST AID MEASURES

Inhalation The affected person should be removed to fresh air and made to rest. Obtain medical attention as a precaution. Treat symptomatically.

Eye Contact Do not attempt to physically remove solids or gums from eye. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes, by the clock, holding the eyelid(s) open. Obtain medical attention immediately.

Skin Contact Remove contaminated clothing. Wash gently and thoroughly with water and non-abrasive soap. If symptoms persist, obtain medical attention. Contaminated clothing should be laundered before re-use.

Ingestion Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. **DO NOT INDUCE VOMITING.** Have victim drink 8 to 10 oz. (240 to 300ml) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Repeat the administration of water. Obtain medical attention immediately.

First Aid Provide general supportive measures (comfort, warmth, rest). Consult a physician and/or the nearest Poison Control Center for all exposures except minor instances of inhalation or skin contact. Solid or plastic material in the eye should be removed only by a physician.

V FIRE FIGHTING MEASURES

A. FIRE AND EXPLOSION DATA

Flash Point of Curing	
By-Product and Method	84-85° C. P.M.C.C. ASTM D-93
Lower Explosive Limit %	Not Applicable
Upper Explosive Limit %	Not Applicable
Autoignition Temperature	No Data
Fire Extinguishing Agents	Chemical Foam, Dry Chemical, CO2
Unusual Fire/ Explosion Hazard	None
Hazardous Combustion Products	Carbon Dioxide, Carbon Monoxide, Silicone Dioxide, Iron Oxide, Manganese Oxide,

B. FIRE FIGHTING PROCEDURES

Sealant will burn if heated strongly. Water can be used to cool material below flash point. Sealant may emit noxious or toxic fumes. Self Contained Breathing Apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. Full Protective clothing to be worn.

VI ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedure	Restrict access to area of spill. Provide ventilation and protective clothing if needed. Scrape-up sealant with cardboard or rag and place in a container.
Waste Disposal	Review environmental regulations for disposal. Silicone wastes can often be incinerated in approved facilities. Solid waste may be sent to a designated landfill site.

VII HANDLING AND STORAGE

Storage Conditions	Store in cool dry conditions. Keep container tightly sealed when not in use.
Handling Procedure	Acetic acid vapor will be liberated during application and curing. Adequate ventilation is required to maintain below TLV. DO NOT handle or store near an open flame, sources of heat, or sources of ignition. Cured CSL product requires no special precautions.

VIII EXPOSURE CONTROL AND PERSONAL PROTECTION

Acetic acid is released as curing by-product when in contact with humid air.

EXPOSURE LIMIT OF CURING BY-PRODUCT

Component	OSHA PEL	ACGIH TLV
Acetic Acid	10 ppm (TWA)	10 ppm (TWA); 15 ppm (STEL)

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	Not required unless normal ventilation is inadequate. Use mask with filter for acetic acid vapor if ventilation is inadequate to prevent overexposure by inhalation.
Eye/Face Protection	Chemical splash goggles
Skin Protection	Gloves, coveralls, apron may be useful to prevent contamination of skin or clothing.
Resistance of Materials for Protective Clothing	No specific data. Most rubbers and plastics are adequate.
Ventilation Requirements	Use of mechanical dilution ventilation to sufficiently maintain the concentration of acetic acid below the recommended occupational exposure limit whenever this material is used in a confined space or is heated above the normal temperature (up to 38 °C).

IX PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Thixotropic paste
Odour	Vinegar like or acetic acid odour
Odour Threshold	Not available
pH	Not determined
Boiling Point (°C)	Not Applicable
Freezing Point (°C)	Not Applicable
Vapor Pressure (mm Hg)	Negligible @ 25 °C.

Vapor Density (Air = 1)	Not Applicable
VOC Concentration	28.39 g/L (0.237 lb/gallon)
Specific Gravity (Water = 1)	1.14
Solubility in Water	Insoluble
Solubility in Other Solvents	Soluble in Most Organic Solvents
Evaporation Rate	Not Applicable
Decomposition Temperature	Not determined

X STABILITY AND REACTIVITY

Product Stability	Stable
Hazardous Polymerization	Will not occur
Incompatible Materials	STRONG OXIDIZERS. CONCENTRATED ACIDS OR BASES cause degradation of polymer. Boiling water may soften and weaken material.
Hazardous Decomposition Products	Combustion will produce silicon dioxide, carbon dioxide and carbon monoxide. A component of this product can generate formaldehyde at approximately 150°C (300°F) and above in the atmosphere containing oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant and potential carcinogen.

XI TOXICOLOGICAL INFORMATION

Toxicological Data LD50 of mixture (calculated) Ingestion/Rat 3900 mg/kg

Evidence of reproductive effects of Octamethylcyclotetrasiloxane in laboratory animals at concentrations of 500 and 700 ppm

XII ECOLOGICAL INFORMATION

No Data Available

XIII DISPOSAL CONSIDERATION

Not classified as Hazardous Waste.

Review environmental regulations to disposal. Silicone wastes can often be incinerated in approved facilities. Solid waste may be sent to a designated landfill site.

XIV TRANSPORT INFORMATION

TDG Information Not a regulated item.

XV REGULATORY INFORMATION

Risk Phrases	R22 Harmful if swallowed. R36 Irritating to eyes. R37 Irritating to respiratory system. R38 Irritating to skin.
Safety Phrases	S23 Do not breath vapours S24/25 Avoid contact with skin and eyes S51 Use in well-ventilated areas
WHMIS Classification	1. CLASS D-Poisonous and Infectious Material Division 2- Other Toxic Effects Subdivision A- Very toxic material

2. CLASS D-Poisonous and Infectious Material
Division 2-Other Toxic Effects
Subdivision B-Toxic material

RoHS Statement	CSL 504 Black Hi-Temp Silicone Rubber Gasket Material does not contain Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium, Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) as listed in RoHS Directives.
TSCA Status	All ingredients of this product are listed on TSCA Inventory of Chemicals.
State of California Safe Drinking Water And Toxic Enforcement Act 1986 (Proposition 65)	None of the ingredient of this product is listed on Proposition 65 list issued on December, 2006.
Canadian DSL Status	All ingredients of this product are on the Canadian DSL.

XVI OTHER INFORMATION

Date Issued	April 22, 2007
Date Revised	March 23, 2010
Prepared By	Farooq Ahmed, Research and Development Manager
Emergency Contact	Baz Mistry, Laboratory Manager or Farooq Ahmed, Research and Development Manager

REFERENCES

1. American Conference of Governmental Industrial Hygienists Inc., Documentation of the Threshold Limit Values (TLV) and Biological Exposures Indices, 5th Edition, 1986, Cincinnati, OH.
2. Keith, L. H., et al, eds, Compendium of Safety Data Sheets for Research and Industrial Chemicals, Volume 2, 1985.
3. Sax, Irving, et al, Dangerous Properties of Industrial Materials, 1984, New York, NY.
4. Canadian Center for Occupational Health and Safety, CHEMINFO, Record #15E.
5. Material Safety Data Sheets from Cabot Corporation; Cab-O-Sil Division, Wacker-Chemie GMBH, ICI Europa Ltd. Specialty Chemicals. Kay-Fries Inc., Heucotech Ltd., Shin-Etsu Chemical Co. Ltd.
6. Canada's National Occupational Health & Safety Resources at www.ccohs.ca/oshanswers/legisl/whmis
7. Information from Health Canada Website at www.hc-sc.gc.ca/ahe-asc/intactiv/ghs-sgh/index_e.html
8. Information from United Nations Website at www.unece.org/trans/danger/publi/ghs/ghs_rev01/01files_e.html
9. Information about RoHS (Restriction of Use of Certain Hazardous Substances in Electrical and Electronic Equipments) was obtained from Website at www.rohs.gov.uk
10. Information about State of California Safe Drinking Water and Toxic Enforcement Act 1986 (Proposition 65) was obtained from Website at www.oehha.ca.gov/prop65.html

The information contained herein has been prepared in good faith to comply with applicable federal and provincial (state) law(s). However, no warranty of any kind is given or implied and CSL Silicones Inc. will not be responsible for any damages, losses or injuries that may result from the use of any information contained here.

CSL SILICONES INC.
144 Woodlawn Road West, Guelph, Ontario Canada N1H 1B5
Telephone: (519) 836-9044 FAX: (519) 836-9069