Safety Data Sheet

Issue date 21-Sep-2018 **Revision date** 21-Sep-2018 **Revision Number** 1

1. IDENTIFICATION

Product identification

Product identifier	Blue-Kote Flexible Flap Disc
Other means of identification	26773
Recommended use	Abrasive
Restrictions on use	For industrial use only

Supplier

Corporate Headquarters:
Lawson Products, Inc.
8770 W. Bryn Mawr Ave., Suite 900
Chicago, IL 60631
(866) 837-9908

Canadian Distribution Center:
Lawson Canada
7315 Rapistan Court
Mississauga, ON L5N 5Z4
(800) 323-5922

24 Hour Emergency Phone Number (888) 426-4851 (Prosar)

2. HAZARD(S) IDENTIFICATION

Hazard Classification While this material is not classified as hazardous under OSHA regulations, this SDS contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

Symbol Not applicable

Signal word Not applicable

Hazard statements Not applicable

Precautionary statements

Response Not applicable

Storage Not applicable

Disposal Not applicable

Hazard(s) Not Otherwise Classified (HNOC) Non-hazardous as sold. Handling or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose, and throat. Exposure to dust generated from processing the base material or coatings may present additional health hazards. A greater risk is likely from the materials being worked on, paints, coatings, etc.

Therefore an assessement of the substances being abraded by the product is essential, prior to use.

Physical Hazards Not Otherwise Classified (PHNOC) Not applicable.

Unknown acute toxicity None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures: The formulation given is for the abrasive cloth, fully cured resins and adhesives used for abrasive product backing, flap disc bottom plate and the rein fiber discs.

Composition This product is classified as an "article" according to Title 29 of the Code of Federal Regulations, OSHA Part 1910.1200. "Article means a manufactured item other than a fluid or particle, which is formed to a specific shape or design during manufacture which has end use function dependent in whole or in part upon its shape or design during end use, and which under normal conditions of use does not release more than very small quantities or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.".

Chemical name	CAS-No	Weight %
Borosilicate Glass	65997-17-3	50-80
Vulcanized Fiber	N/A	45-70
Alumina Zirconia	68995-26-0	0-60
Resin	N/A	0-40
Bisphenol A - Epichlorohydrin polymer	25068-38-6	0-40
Aluminum Oxide	1344-28-1	0-60
Silicon Carbide	409-21-2	0-60
Limestone	1317-65-3	0-35
Bisphenol F Epoxy Resin	28064-14-4	0-25
Ziroconium Oxide	1314-23-4	0-40
Zirconium	7440-67-7	0-20
Garnet	12178-41-5	0-30
Cryolite	13775-53-6	0-35
Potassium Fluoroborate	14075-53-7	0-15
Kaolinite, Hydrous Aluminum Silicate	1332-58-7	0-15
Fluoride	16984-48-8	0-15
Tetraethylenepentamine	112-57-2	0-10
Calcium stearate	1592-23-0	0-10
Zinc stearate	557-05-1	0-10
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	13775-53-6	0-9
Natural Wax	N/A	0-5
Ethylene glycol	107-21-1	0-5
Calcium Sulfate	7778-18-9	0-5
Black Iron Oxide	1317-61-9	0-5
1,6-(bis(2,3-epoxypropoxy)hexane	16096-31-4	0-2.5
Titanium Dioxide	13463-67-7	0-1.5
Crystalline Silica	14808-60-7	0-1

The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST-AID MEASURES

Necessary first-aid measures

Inhalation Remove from exposure. If symptoms persist, get medical attention.

Ingestion Not likely, due to the form of the product. If necessary, call a poison center or physician.

Skin contact None known based on information supplied.

Eye contact Remove from exposure. Irrigate (flood) eyes immediately and repeatedly with clean water. If eye irritation persists: Get medical advice/attention.

Most important symptoms (acute) None known.

Most important symptoms (over-exposure) None known.

Indication of any immediate medical attention and special treatment needed Not applicable. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Sand. Extinguishing powder. Dry Chemical, Carbon Dioxide, Foam or Water Fog. Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media None known.

Specific hazards May generate toxic metal fumes when heated. If ventilation is not adequate, use respiratory protection equipment.

Special protective equipment for fire-fighters Use extinguishing media appropriate to surrounding fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Follow instructions of grinding machine manufacturers and the relevant national regulations. Standard safety precautions should be observed when handling this material.

Methods and materials for containment and cleaning up Not applicable.

7. HANDLING AND STORAGE

Precautions for safe handling Follow instructions of grinding machine manufacturers and the relevant national regulations.

Conditions for safe storage, including any incompatibilities Observe the safety recommendations of the manufacturer. Store at room temperature. Avoid excessive temperatures in storage. The expected shelf life of abrasives is not to exceed 2 years, unless otherwise specified.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Borosilicate Glass	-	1 fiber/cm3 TWA 5 mg/m³ TWA	-
Vulcanized Fiber	-	-	-
Alumina Zirconia	-	-	-

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Resin	-	-	-
Bisphenol A - Epichlorohydrin polymer	-	-	-
Aluminum Oxide	15 mg/m³ TWA 5 mg/m³ TWA	1 mg/m³ TWA	-
Silicon Carbide	15 mg/m³ TWA 5 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fiber/cm3 TWA	10 mg/m³ TWA 5 mg/m³ TWA
Limestone	15 mg/m³ TWA 5 mg/m³ TWA	-	10 mg/m³ TWA 5 mg/m³ TWA
Bisphenol F Epoxy Resin	-	-	-
Ziroconium Oxide	5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA
Zirconium	5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA
Garnet	-	-	-
Cryolite	-	-	-
Potassium Fluoroborate	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA
Kaolinite, Hydrous Aluminum Silicate	15 mg/m³ TWA 5 mg/m³ TWA	2 mg/m³ TWA	10 mg/m³ TWA 5 mg/m³ TWA
Fluoride	0.1 ppm TWA 0.2 mg/m³ TWA 2.5 mg/m³ TWA	2 ppm STEL 1 ppm TWA 2.5 mg/m³ TWA	0.1 ppm TWA 0.2 mg/m³ TWA 2.5 mg/m³ TWA
Tetraethylenepentamine	-	-	-
Calcium stearate	-	10 mg/m³ TWA 3 mg/m³ TWA	-
Zinc stearate	15 mg/m³ TWA 5 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA 5 mg/m³ TWA
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	-	-	-
Natural Wax	-	-	-
Ethylene glycol	-	50 ppm STEL 10 mg/m³ STEL 25 ppm TWA	-
Calcium Sulfate	15 mg/m³ TWA 5 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 5 mg/m³ TWA
Black Iron Oxide	-	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	-	-	-
Titanium Dioxide	15 mg/m³ TWA	10 mg/m³ TWA	-
Crystalline Silica	50 µg/m³ TWA 50 µg/m³ TWA	0.025 mg/m³ TWA	0.05 mg/m³ TWA

Appropriate engineering controls

General limitations of particulate air concentrations have to be considered in risk assessment. Use a properly fitted, air-purifying or supplied air respirator complying with a approved standard if a risk assessment indicates this is necessary. Dust formation may be relevant in the processing of this product. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Ensure all national/local regulations are observed.

Individual protection measures, such as personal protective equipment

Eye protection Goggles. Face shield is recommended.

Hearing Protection Use hearing protection if operations are noisy. Hearing protection such as earplugs or approved earmuffs. Refer to OSHA 29 CFR 1910.95.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection Use a NIOSH/MSHA approved respirator in dusty environments.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Canadian Province Occupational

Exposure Limits

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundland & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatchewan - OEL
Borosilicate Glass	5 mg/m³ TWA 1 fibre/cm3 TWA	1 fibre/cm3 TWA 5 mg/m³ TWA	1 fiber/cm3 TWA 5 mg/m³ TWA	5 mg/m³ TWA 1 fibre/cm3 TWA	1 fiber/cm3 TWA 5 mg/m³ TWA	1 fiber/cm3 TWA 5 mg/m³ TWA	1 fibre/cm3 TWA 5 mg/m³ TWA	1 fiber/cm3 TWA 5 mg/m³ TWA	10 mg/m³ TWAEV	3 fibre/cm3 STEL 10 mg/m³ STEL 5 mg/m³ TWA 1 fibre/cm3 TWA
Vulcanized Fiber	-	-	-	-	-	-	-	-	-	-
Alumina Zirconia	-	-	-	-	-	-	-	-	-	-
Resin	-	-	-	-	-	-	-	-	-	-
Bisphenol A - Epichlorohydrin polymer	-	-	-	-	-	-	-	-	-	-
Aluminum Oxide	10 mg/m³ TWA	1.0 mg/m³ TWA	1 mg/m³ TWA	10 mg/m³ TWA	1 mg/m³ TWA	1 mg/m³ TWA	1 mg/m³ TWA	1 mg/m³ TWA	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Silicon Carbide	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fibre/cm3 TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fibre/cm3 TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fiber/cm3 TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fiber/cm3 TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fiber/cm3 TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fibre/cm3 TWA	10 mg/m³ TWA 3 mg/m³ TWA 0.1 fiber/cm3 TWA	10 mg/m³ TWAEV	20 mg/m³ STEL 6 mg/m³ STEL 0.1 fibre/cm3 TWA 10 mg/m³ TWA 3 mg/m³ TWA
Limestone	10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA 3 mg/m³ TWA	-	10 mg/m³ TWA	-	-	-	-	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Bisphenol F Epoxy Resin	-	-	-	-	-	-	-	-	-	-
Ziroconium Oxide	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	5 mg/m³ TWA 10 mg/m³ STEL	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEV 5 mg/m³ TWAEV	10 mg/m³ STEL 5 mg/m³ TWA
Zirconium	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA	5 mg/m³ TWA 10 mg/m³ STEL	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA	10 mg/m³ STEV 5 mg/m³ TWAEV 5 mg/m³ TWAEV	10 mg/m³ STEL 5 mg/m³ TWA 5 mg/m³ TWA
Garnet	-	-	-	-	-	-	-	-	-	-
Cryolite	-	-	-	-	-	-	-	-	-	-
Potassium Fluoroborate	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWA	2.5 mg/m³ TWAEV	5 mg/m³ STEL 2.5 mg/m³ TWA
Kaolinite, Hydrous Aluminum Silicate	2 mg/m³ TWA	2 mg/m³ TWA	2 mg/m³ TWA	2 mg/m³ TWA	2 mg/m³ TWA	2 mg/m³ TWA	2 mg/m³ TWA	2 mg/m³ TWA	5 mg/m³ TWAEV	4 mg/m³ STEL 2 mg/m³ TWA
Fluoride	2 ppm STEL 3.1 mg/m³ STEL 1 ppm TWA	0.1 ppm TWA 2.5 mg/m³ TWA	1 ppm TWA 2.5 mg/m³ TWA 2 ppm STEL	2 ppm STEL 3.1 mg/m³ STEL 1 ppm TWA	2 ppm STEL 1 ppm TWA 2.5 mg/m³ TWA	2 ppm STEL 1 ppm TWA 2.5 mg/m³ TWA	2 ppm STEL 1 ppm TWA 2.5 mg/m³ TWA	2 ppm STEL 1 ppm TWA 2.5 mg/m³ TWA	0.1 ppm TWAEV 0.2 mg/m³ TWAEV 2.5 mg/m³	2 ppm STEL 5 mg/m³ STEL 1 ppm TWA

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundland & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatchewan - OEL
	1.6 mg/m³ TWA 2.5 mg/m³ TWA			1.6 mg/m³ TWA 2.5 mg/m³ TWA					TWAEV	2.5 mg/m³ TWA
Tetraethylenepentamine	-	-	-	-	-	-	-	-	-	-
Calcium stearate	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	-	20 mg/m³ STEL 10 mg/m³ TWA
Zinc stearate	10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA 10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	-	-	-	-	-	-	-	-	-	-
Natural Wax	-	-	-	-	-	-	-	-	-	-
Ethylene glycol	100 mg/m³ Ceiling	100 mg/m³ Ceiling 50 ppm Ceiling 20 mg/m³ STEL 10 mg/m³ TWA	25 ppm TWA 50 ppm STEL 10 mg/m³ STEL	100 mg/m³ Ceiling	50 ppm STEL 10 mg/m³ STEL 25 ppm TWA	50 ppm STEL 10 mg/m³ STEL 25 ppm TWA	100 mg/m³ Ceiling	50 ppm STEL 10 mg/m³ STEL 25 ppm TWA	50 ppm Ceiling 127 mg/m³ Ceiling	100 mg/m³ Ceiling
Calcium Sulfate	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWAEV 5 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Black Iron Oxide	-	-	-	-	-	-	-	-	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	-	-	-	-	-	-	-	-	-	-
Titanium Dioxide	10 mg/m³ TWA	10 mg/m³ TWA 3 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWA	10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Crystalline Silica	0.025 mg/m³ TWA	0.025 mg/m³ TWA	0.025 mg/m³ TWA	0.1 mg/m³ TWA	0.025 mg/m³ TWA	0.025 mg/m³ TWA	0.10 mg/m³ TWA	0.025 mg/m³ TWA	0.1 mg/m³ TWAEV	0.05 mg/m³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state Solid

Color Various

Odor Not applicable

Odor threshold Not applicable

pH Not applicable

Melting point/range °C Not applicable

Melting point/range °F Not applicable

Boiling point/range °C Not applicable

Boiling point/range °F	Not applicable
Flash point °C / °F	Not applicable
Evaporation rate	Not applicable
Flammability (Solid, Gas)	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	Not applicable
Solubility	Not applicable
Partition coefficient (n-octanol/water)	Not applicable
Autoignition temperature °C	Not applicable
Autoignition temperature °F	Not applicable
Decomposition temperature °C	> 250 °C
Decomposition temperature °F	> 482 °F
Viscosity	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	No dangerous reactions under normal conditions of use.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal conditions of use.
Conditions to avoid	No specific data.
Incompatible materials	Oxidizing agents. Strong acids. Bases.
Hazardous decomposition products	Temperatures above 480F. Toxic gases or fumes are given off during burning or thermal decomposition.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	Not available.
Symptoms	Product may present a nuisance dust hazard. May cause irritation of the respiratory system. Dust may cause abrasion. Skin irritation. Dust from this product may cause eye irritation. Eye contact may cause mechanical irritation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure Prolonged inhalation of titanium dioxide above safe exposure limits can cause cancer.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Borosilicate Glass	-	-	-
Vulcanized Fiber	-	-	-
Alumina Zirconia	-	-	-
Resin	-	-	-
Bisphenol A - Epichlorohydrin polymer	-	-	= 11400 mg/kg (Rat)
Aluminum Oxide	-	-	> 5000 mg/kg (Rat)
Silicon Carbide	-	-	-
Limestone	-	-	-
Bisphenol F Epoxy Resin	-	-	-
Ziroconium Oxide	-	-	-
Zirconium	-	-	-
Garnet	-	-	-
Cryolite	= 4470 µg/L (Rat) 4 h	> 2100 mg/kg (Rabbit) Dermal LD50 Rabbit >2100 mg/kg (Source: EU_RAR)	> 5 g/kg (Rat) Oral LD50 Rat >5 g/kg (no deaths occurred, Source: NLM_CIP)
Potassium Fluoroborate	-	-	= 5854 mg/kg (Rat)
Kaolinite, Hydrous Aluminum Silicate	-	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rat)
Fluoride	= 185 ppm (Rat) 1 h	-	-
Tetraethylenepentamine	-	= 660 µL/kg (Rabbit)	= 3990 mg/kg (Rat)
Calcium stearate	-	-	> 10 g/kg (Rat)
Zinc stearate	> 200 mg/L (Rat) 1 h	> 2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: EU_RAR)	> 10 g/kg (Rat) Oral LD50 Rat >10 g/kg (Source: NLM_CIP)
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	-	> 2100 mg/kg (Rabbit)	> 5 g/kg (Rat)
Natural Wax	-	-	-
Ethylene glycol	-	= 10600 mg/kg (Rat) = 9530 µL/kg (Rabbit)	= 4700 mg/kg (Rat)
Calcium Sulfate	-	-	> 3000 mg/kg (Rat) Oral LD50 Rat >3000 mg/kg (Source: IUCLID)
Black Iron Oxide	-	-	> 10000 mg/kg (Rat)
1,6-(bis(2,3-epoxypropoxy)hexane	-	-	300 - 2000 mg/kg (Rat) Oral LD50 Rat 300 - 2000 mg/kg (miscible in olive oil; females; no deaths occurred at 300 mg/kg; death occurred (2 out of 3 tested female animals at 2000 mg/kg), Source: JP_J-CHECK)
Titanium Dioxide	-	-	> 10000 mg/kg (Rat)
Crystalline Silica	-	-	-

ATEmix (dermal) Not available

ATEmix (oral) Not available

ATEmix (inhalation-gas) Not available

ATEmix (inhalation-vapor) Not available

ATEmix (inhalation-dust/mist) Not available

Carcinogenicity

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA RTK Carcinogens	NTP
Borosilicate Glass	A4	Group 3	-	-
Vulcanized Fiber	-	-	-	-
Alumina Zirconia	-	-	-	-
Resin	-	-	-	-
Bisphenol A - Epichlorohydrin polymer	-	-	-	-
Aluminum Oxide	A4	-	-	-
Silicon Carbide	A2	Group 2A	Listed	-
Limestone	-	-	-	-
Bisphenol F Epoxy Resin	-	-	-	-
Ziroconium Oxide	A4	-	-	-
Zirconium	A4	-	-	-
Garnet	-	-	-	-
Cryolite	-	-	-	-
Potassium Fluoroborate	A4	Group 3	-	-
Kaolinite, Hydrous Aluminum Silicate	A4	-	-	-
Fluoride	-	Group 3	-	-
Tetraethylenepentamine	-	-	-	-
Calcium stearate	A4	-	-	-
Zinc stearate	-	-	-	-
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	-	-	-	-
Natural Wax	-	-	-	-
Ethylene glycol	A4	-	-	-
Calcium Sulfate	-	-	-	-
Black Iron Oxide	-	-	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	-	-	-	-
Titanium Dioxide	A4	Group 2B	Listed	-
Crystalline Silica	A2	Group 1	Listed	Known

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Borosilicate Glass	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Vulcanized Fiber	-	-	-	-	-	-
Alumina Zirconia	-	-	-	-	-	-
Resin	-	-	-	-	-	-
Bisphenol A - Epichlorohydrin polymer	-	-	-	-	-	-
Aluminum Oxide	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Silicon Carbide	A2 - Suspected Human Carcinogen (fibrous, including whiskers)	ACGIH A2	ACGIH A2	ACGIH A4	ACGIH A2	-
Limestone	-	-	-	-	-	-
Bisphenol F Epoxy Resin	-	-	-	-	-	-

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Ziroconium Oxide	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Zirconium	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Garnet	-	-	-	-	-	-
Cryolite	-	-	-	-	-	-
Potassium Fluoroborate	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Kaolinite, Hydrous Aluminum Silicate	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Fluoride	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Tetraethylenepentamine	-	-	-	-	-	-
Calcium stearate	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Zinc stearate	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	-	-	-	-	-	-
Natural Wax	-	-	-	-	-	-
Ethylene glycol	-	-	ACGIH A4	ACGIH A4	ACGIH A4	-
Calcium Sulfate	-	-	-	-	-	-
Black Iron Oxide	-	-	-	-	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	-	-	-	-	-	-
Titanium Dioxide	-	IARC 2B	ACGIH A4	ACGIH A4	ACGIH A4	-
Crystalline Silica	A2 - Suspected Human Carcinogen	ACGIH A2 IARC 1	ACGIH A2	-	ACGIH A2	C2 carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish
Borosilicate Glass	-	-
Vulcanized Fiber	-	-
Alumina Zirconia	-	-
Resin	-	-
Bisphenol A - Epichlorohydrin polymer	-	-
Aluminum Oxide	-	-
Silicon Carbide	-	-
Limestone	-	-
Bisphenol F Epoxy Resin	-	-
Ziroconium Oxide	-	-
Zirconium	-	-
Garnet	-	-
Cryolite	-	-
Potassium Fluoroborate	95: 96 h Desmodesmus subspicatus mg/L EC50	-
Kaolinite, Hydrous Aluminum Silicate	-	-
Fluoride	-	-
Tetraethylenepentamine	2.1: 72 h Pseudokirchneriella subcapitata mg/L EC50	420: 96 h Poecilia reticulata mg/L LC50 static
Calcium stearate	-	-
Zinc stearate	-	-
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	-	-

Chemical name	Algae/aquatic plants	Fish
Natural Wax	-	-
Ethylene glycol	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static
Calcium Sulfate	-	2980: 96 h Lepomis macrochirus mg/L LC50 static 1970: 96 h Pimephales promelas mg/L LC50 static
Black Iron Oxide	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	-	-
Titanium Dioxide	-	-
Crystalline Silica	-	-

Persistence and degradability No data available.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)
Borosilicate Glass 65997-17-3	65997-17-3	-
Vulcanized Fiber N/A	N/A	-
Alumina Zirconia 68995-26-0	68995-26-0	-
Resin N/A	N/A	-
Bisphenol A - Epichlorohydrin polymer 25068-38-6	25068-38-6	-
Aluminum Oxide 1344-28-1	1344-28-1	-
Silicon Carbide 409-21-2	409-21-2	-
Limestone 1317-65-3	1317-65-3	-
Bisphenol F Epoxy Resin 28064-14-4	28064-14-4	-
Ziroconium Oxide 1314-23-4	1314-23-4	-
Zirconium 7440-67-7	7440-67-7	-
Garnet 12178-41-5	12178-41-5	-
Cryolite 13775-53-6	13775-53-6	-
Potassium Fluoroborate 14075-53-7	14075-53-7	-
Kaolinite, Hydrous Aluminum Silicate 1332-58-7	1332-58-7	-
Fluoride 16984-48-8	16984-48-8	-
Tetraethylenepentamine 112-57-2	112-57-2	<1
Calcium stearate 1592-23-0	1592-23-0	-

Chemical name	CAS-No	Partition coefficient (log Kow)
Zinc stearate 557-05-1	557-05-1	1.2
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)- 13775-53-6	13775-53-6	-
Natural Wax N/A	N/A	-
Ethylene glycol 107-21-1	107-21-1	-1.93
Calcium Sulfate 7778-18-9	7778-18-9	-
Black Iron Oxide 1317-61-9	1317-61-9	-
1,6-(bis(2,3-epoxypropoxy)hexane 16096-31-4	16096-31-4	-
Titanium Dioxide 13463-67-7	13463-67-7	-
Crystalline Silica 14808-60-7	14808-60-7	-

Mobility in soil Not available.

Other adverse effects None known

13. DISPOSAL CONSIDERATIONS

Disposal information Discard container or liner in accordance with federal, state, and local regulations.

Contaminated packaging Dispose in accordance with local, state and federal regulations.

14. TRANSPORTATION INFORMATION

Shipping Descriptions

DOT
Proper shipping name Not regulated

TDG
Proper shipping name Not regulated

IATA
Proper shipping name Not regulated

IMDG/IMO
Proper shipping name Not regulated

Marine Pollutants

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Borosilicate Glass	65997-17-3	-	-	-
Vulcanized Fiber	N/A	-	-	-
Alumina Zirconia	68995-26-0	-	-	-
Resin	N/A	-	-	-
Bisphenol A - Epichlorohydrin polymer	25068-38-6	-	-	-
Aluminum Oxide	1344-28-1	-	-	-
Silicon Carbide	409-21-2	-	-	-
Limestone	1317-65-3	-	-	-

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Bisphenol F Epoxy Resin	28064-14-4	-	-	-
Ziroconium Oxide	1314-23-4	-	-	-
Zirconium	7440-67-7	-	-	-
Garnet	12178-41-5	-	-	-
Cryolite	13775-53-6	-	-	-
Potassium Fluoroborate	14075-53-7	-	-	-
Kaolinite, Hydrous Aluminum Silicate	1332-58-7	-	-	-
Fluoride	16984-48-8	-	-	-
Tetraethylenepentamine	112-57-2	-	-	-
Calcium stearate	1592-23-0	-	-	-
Zinc stearate	557-05-1	-	-	-
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	13775-53-6	-	-	-
Natural Wax	N/A	-	-	-
Ethylene glycol	107-21-1	-	-	-
Calcium Sulfate	7778-18-9	-	-	-
Black Iron Oxide	1317-61-9	-	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	16096-31-4	-	-	-
Titanium Dioxide	13463-67-7	-	-	-
Crystalline Silica	14808-60-7	-	-	-

15. REGULATORY INFORMATION

State regulations

U.S. state Right-to-Know regulations

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Borosilicate Glass	65997-17-3	-	-	-
Vulcanized Fiber	N/A	-	-	-
Alumina Zirconia	68995-26-0	-	-	-
Resin	N/A	-	-	-
Bisphenol A - Epichlorohydrin polymer	25068-38-6	-	-	-
Aluminum Oxide	1344-28-1	X	X	X
Silicon Carbide	409-21-2	X	X	X
Limestone	1317-65-3	X	X	X
Bisphenol F Epoxy Resin	28064-14-4	-	-	-
Ziroconium Oxide	1314-23-4	X	-	-
Zirconium	7440-67-7	X	X	X
Garnet	12178-41-5	-	-	-
Cryolite	13775-53-6	-	-	-
Potassium Fluoroborate	14075-53-7	-	X	-
Kaolinite, Hydrous Aluminum Silicate	1332-58-7	X	X	X
Fluoride	16984-48-8	X	X	X
Tetraethylenepentamine	112-57-2	X	X	X
Calcium stearate	1592-23-0	-	-	-
Zinc stearate	557-05-1	X	X	X
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	13775-53-6	-	-	-
Natural Wax	N/A	-	-	-
Ethylene glycol	107-21-1	X	X	X
Calcium Sulfate	7778-18-9	X	X	X
Black Iron Oxide	1317-61-9	-	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	16096-31-4	-	-	-

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Titanium Dioxide	13463-67-7	X	X	X
Crystalline Silica	14808-60-7	X	X	X

California Prop. 65

WARNING: This product contains a chemical(s) known to the state of California to cause cancer, birth defects or other reproductive harm

Chemical name	CAS-No	California Prop. 65
Borosilicate Glass	65997-17-3	-
Vulcanized Fiber	N/A	-
Alumina Zirconia	68995-26-0	-
Resin	N/A	-
Bisphenol A - Epichlorohydrin polymer	25068-38-6	Carcinogen
Aluminum Oxide	1344-28-1	-
Silicon Carbide	409-21-2	-
Limestone	1317-65-3	-
Bisphenol F Epoxy Resin	28064-14-4	-
Ziroconium Oxide	1314-23-4	-
Zirconium	7440-67-7	-
Garnet	12178-41-5	-
Cryolite	13775-53-6	-
Potassium Fluoroborate	14075-53-7	-
Kaolinite, Hydrous Aluminum Silicate	1332-58-7	-
Fluoride	16984-48-8	-
Tetraethylenepentamine	112-57-2	-
Calcium stearate	1592-23-0	-
Zinc stearate	557-05-1	-
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	13775-53-6	-
Natural Wax	N/A	-
Ethylene glycol	107-21-1	Developmental
Calcium Sulfate	7778-18-9	-
Black Iron Oxide	1317-61-9	-
1,6-(bis(2,3-epoxypropoxy)hexane	16096-31-4	-
Titanium Dioxide	13463-67-7	-
Crystalline Silica	14808-60-7	Carcinogen

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Borosilicate Glass	65997-17-3	-	-
Vulcanized Fiber	N/A	-	-
Alumina Zirconia	68995-26-0	-	-
Resin	N/A	-	-
Bisphenol A - Epichlorohydrin polymer	25068-38-6	-	-
Aluminum Oxide	1344-28-1	-	1.0 %
Silicon Carbide	409-21-2	-	-
Limestone	1317-65-3	-	-
Bisphenol F Epoxy Resin	28064-14-4	-	-
Ziroconium Oxide	1314-23-4	-	-
Zirconium	7440-67-7	-	-

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Garnet	12178-41-5	-	-
Cryolite	13775-53-6	-	-
Potassium Fluoroborate	14075-53-7	-	-
Kaolinite, Hydrous Aluminum Silicate	1332-58-7	-	-
Fluoride	16984-48-8	10 lb 4.54 kg	1.0 %
Tetraethylenepentamine	112-57-2	-	-
Calcium stearate	1592-23-0	-	-
Zinc stearate	557-05-1	-	1.0 %
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	13775-53-6	-	-
Natural Wax	N/A	-	-
Ethylene glycol	107-21-1	5000 lb 2270 kg	1.0 %
Calcium Sulfate	7778-18-9	-	-
Black Iron Oxide	1317-61-9	-	-
1,6-(bis(2,3-epoxypropoxy)hexane	16096-31-4	-	-
Titanium Dioxide	13463-67-7	-	-
Crystalline Silica	14808-60-7	-	-

US EPA SARA 311/312 hazardous categorization Not applicable

International inventories All components of this product are listed on the following inventories: U.S.A. (TSCA 8(b)), Canada (DSL/NDSL) or are exempt.

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Borosilicate Glass	X	X	-
Vulcanized Fiber	-	-	-
Alumina Zirconia	-	-	-
Resin	-	-	-
Bisphenol A - Epichlorohydrin polymer	X	X	-
Aluminum Oxide	X	X	-
Silicon Carbide	X	X	-
Limestone	X	X	-
Bisphenol F Epoxy Resin	X	X	-
Ziroconium Oxide	X	X	-
Zirconium	X	X	-
Garnet	-	-	-
Cryolite	X	X	-
Potassium Fluoroborate	X	X	-
Kaolinite, Hydrous Aluminum Silicate	X	X	-
Fluoride	X	X	-
Tetraethylenepentamine	X	X	-
Calcium stearate	X	X	-
Zinc stearate	X	X	-
Aluminate(3-), hexafluoro-, trisodium, (OC-6-11)-	X	X	-
Natural Wax	-	-	-
Ethylene glycol	X	X	-
Calcium Sulfate	X	X	-
Black Iron Oxide	X	X	-
1,6-(bis(2,3-epoxypropoxy)hexane	X	X	X

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Titanium Dioxide	X	X	-
Crystalline Silica	X	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health	Not available
Flammability	Not available
Instability	Not available

HMIS

Health	Not available
Flammability	Not available
Physical hazards	Not available

Notice: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

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Revision note

Key to abbreviations

ACGIH (American Conference of Governmental Industrial Hygienists)
ATE (Average Toxicity Estimate)
DSL/NDSL (Domestic Substance List/Non-Domestic Substance List)
HMIS (Hazardous Materials Identification System)
IARC (International Agency for Research on Cancer)
IATA (International Air Transport Association)
IMDG/IMO (International Maritime Dangerous Goods/International Maritime Orgnaization)
NFPA (National Fire Protection Association)
NTP (National Toxicology Program)
OEL (Occupational Exposure Level)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
TSCA (Toxic Substance Control Act)
USEPA (United States Environmental Protection Agency)

Disclaimer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

End of Safety Data Sheet