



Revision Number: 002.1

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE S-OT 310B FUNCTIONAL COATING ACHESON known as EMRALON310-B
Product type: Dry film lubricant
Restriction of Use: None identified
Company address: Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 1263122

Item number: 1263122
Region: United States

Contact information:
 Telephone: (860) 571-5100
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: HIGHLY FLAMMABLE LIQUID AND VAPOR.
 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
 CAUSES SKIN IRRITATION.
 MAY CAUSE AN ALLERGIC SKIN REACTION.
 CAUSES SERIOUS EYE IRRITATION.
 MAY CAUSE DROWSINESS OR DIZZINESS.

HAZARD CLASS	HAZARD CATEGORY
FLAMMABLE LIQUID	2
SKIN IRRITATION	2
EYE IRRITATION	2A
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	3
ASPIRATION HAZARD	1

PICTOGRAM(S)



Precautionary Statements

Prevention: Keep away from heat, sparks, open flames, hot surfaces - no smoking. Keep container tightly closed. No release into water. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing vapors, mist, or spray. Wash affected area thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye protection, and face protection.

Response: IF SWALLOWED: Immediately call a physician or poison control center. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do NOT induce vomiting. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing. In case of fire: Use foam, dry chemical or carbon dioxide to extinguish. Keep cool. Store locked up.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Toluene	108-88-3	20 - 30
Methoxypropyl acetate 2-	108-65-6	20 - 30
n-Butyl alcohol	71-36-3	20 - 30
Phenol-formaldehyde polymer	9003-35-4	5 - 10
Ethanol	64-17-5	5 - 10
Pentylacetat	628-63-7	1 - 5
Methanol	67-56-1	0.1 - 1
Phenol	108-95-2	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Get medical attention. If symptoms are experienced, remove source of contamination or move victim to fresh air. If not breathing, give artificial respiration.

Skin contact: In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. If symptoms develop and persist, get medical attention. Discard any shoes or clothing items that cannot be decontaminated.

Eye contact: In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Ingestion: Get medical attention. DO NOT induce vomiting unless directed to do so by medical personnel. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. In case of fire, keep containers cool with water spray.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Wear full protective clothing.

Unusual fire or explosion hazards: Vapors are heavier than air and may travel to ignition sources and flash back. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers. Formation of toxic gases is possible during heating or in fires.

Hazardous combustion products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Eliminate ignition sources including sources of electrical, static or frictional sparks. Ventilate area. Do not allow product to enter sewer or waterways. Wear appropriate personal protective equipment. Prevent further leakage or spillage if safe to do so.

Clean-up methods: Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of according to Federal, State and local governmental regulations.

7. HANDLING AND STORAGE

Handling: Provide adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Do not cut or weld on empty drums. Sufficient vapors from residues may be present to cause explosion and serious injury and/or death. Wash thoroughly after handling. Use proper bonding and/or grounding procedures.

Storage: For safe storage, store between 40 °F (4.4 °C) and 80 °F (26.7 °C) Keep the container tightly closed and in a cool, well-ventilated place. Remove all sources of ignition. Keep away from heat, spark and flame. Store in original container until ready to use. Protect from direct sunlight. Ground and bond metal containers for liquid transfer to avoid static sparks. Keep out of reach of children and away from food and drink.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Toluene	20 ppm TWA	200 ppm TWA 300 ppm Ceiling 500 ppm MAX. CONC 10 minutes	None	None
Methoxypropyl acetate 2-	None	None	50 ppm TWA	None
n-Butyl alcohol	20 ppm TWA	100 ppm (300 mg/m3) PEL	None	None
Phenol-formaldehyde polymer	None	None	None	None
Ethanol	1,000 ppm STEL	1,000 ppm (1,900 mg/m3) PEL	None	None
Pentylacetat	50 ppm TWA 100 ppm STEL	100 ppm (525 mg/m3) PEL	None	None
Methanol	200 ppm TWA (SKIN) 250 ppm STEL	200 ppm (260 mg/m3) PEL	None	None
Phenol	5 ppm TWA (SKIN)	5 ppm (19 mg/m3) PEL (SKIN)	None	None

Engineering controls:

Ventilation should effectively remove and prevent buildup of any vapor/mist/fume/dust generated from the handling of this product. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

Respiratory protection:

If ventilation is not sufficient to effectively prevent buildup of aerosols, mists or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Eye/face protection:

Safety goggles or safety glasses with side shields.

Skin protection:

Wear impervious gloves for prolonged contact. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Blue
Odor:	Solvent
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	20 mm hg (20 °C (68°F)) calculated
Boiling point/range:	> 35 °C (> 95°F)None
Melting point/ range:	< 0 °C (< 32°F)
Specific gravity:	0.90 - 0.92
Vapor density:	> 1 (Air = 1)
Flash point:	7.8 °C (46.04 °F) ASTM D 93-96 Flash point
Flammable/Explosive limits - lower:	1.1 %
Flammable/Explosive limits - upper:	36.5 %
Autoignition temperature:	>= 272 °C (>= 521.6 °F)
Flammability:	Not applicable
Evaporation rate:	Not determined
Solubility in water:	Negligible
Partition coefficient (n-octanol/water):	Not determined
VOC content:	772 g/l
Viscosity:	25 cp
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	None under normal processing.
Hazardous decomposition products:	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Incompatible materials:	This product may react with strong acids, bases and oxidizing agents.
Reactivity:	Not available.
Conditions to avoid:	Keep away from heat, spark and flame.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: Inhalation of high vapor concentrations may produce respiratory irritation, and may cause central nervous system (CNS) depression. Continued overexposure may result in coma, respiratory arrest, and death. Product contains toluene which is harmful or fatal if inhaled or absorbed through the skin, may cause permanent nervous system damage upon repeated exposure, and has been shown to be a human reproductive hazard. Chronic exposure to toluene may have effects on the central nervous system and these effects may progress to be irreversible. Intentional misuse of toluene has resulted in reproductive effects including physical and developmental abnormalities.

Skin contact: This product is irritating to the skin. Prolonged or repeated skin contact may cause dermatitis.

Eye contact: This product is irritating to the eyes. This product may be severely irritating to the eyes.

Ingestion: Ingestion of this product may cause nausea, vomiting and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Toluene	Oral LD50 (Rat) = 2.6 g/kg Oral LD50 (Rat) = 5,000 mg/kg Dermal LD50 (Rabbit) = 12,124 mg/kg Inhalation LC50 (Rat, 4 h) = 8000 ppm	Behavioral, Cardiac, Central nervous system, Developmental, Ear, Irritant
Methoxypropyl acetate 2-	None	Irritant, Central nervous system
n-Butyl alcohol	Oral LD50 (Rat) = 790 mg/kg Dermal LD50 (Rabbit) = 3,400 mg/kg Inhalation LC50 (Rat, 4 h) = 8000 ppm	Allergen, Central nervous system, Ear, Eyes, Irritant
Phenol-formaldehyde polymer	None	Allergen, Corrosive, Irritant, Kidney, Respiratory, Skin
Ethanol	Oral LD50 (Rat) = 9.9 g/kg Oral LD50 (Rat) = 6.2 g/kg Oral LD50 (Rat) = 17.8 g/kg Oral LD50 (Rat) = 11.5 g/kg Oral LD50 (Mouse) = 3,450 mg/kg Oral LD50 (Rat) = 10.6 g/kg Oral LD50 (Rat) = 7,060 mg/kg Inhalation LC50 (Mouse, 4 h) = 0.039 mg/l	Central nervous system, Irritant
Pentylacetat	None	Irritant, Central nervous system
Methanol	Oral LD50 (Rat) = 5,628 mg/kg Oral LD50 (Mouse) = 7,300 mg/kg Oral LD50 (Rabbit) = 14.4 g/kg Dermal LD50 (Rabbit) = 15,800 mg/kg Inhalation LC50 (Rat, 4 h) = 64000 ppm	Eyes, Irritant, Metabolic, Nervous System
Phenol	Oral LD50 (Mouse) = 270 mg/kg Oral LD50 (Rat) = 317 mg/kg Oral LD50 (Rat) = 530 mg/kg Dermal LD50 (Rat) = 669 mg/kg Dermal LD50 (Rabbit) = 850 mg/kg	Blood, Cardiac, Corrosive, Developmental, Eyes, Irritant, Kidney, Liver, Mutagen, Nervous System, Skin, Vascular

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Toluene	No	No	No
Methoxypropyl acetate 2-	No	No	No
n-Butyl alcohol	No	No	No
Phenol-formaldehyde polymer	No	No	No
Ethanol	No	No	No
Pentylacetat	No	No	No
Methanol	No	No	No
Phenol	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Harmful to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: If discarded, this product is considered a RCRA ignitable waste, D001. This product contains a component or components identified as hazardous under 40 CFR 261.24. U031 U220

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Resin solution
Hazard class or division: 3
Identification number: UN 1866
Packing group: II
DOT Hazardous Substance(s): Toluene, n-Butyl alcohol

International Air Transportation (ICAO/IATA)

Proper shipping name: Resin solution
Hazard class or division: 3
Identification number: UN 1866
Packing group: II

Water Transportation (IMO/IMDG)

Proper shipping name: RESIN SOLUTION
Hazard class or division: 3
Identification number: UN 1866
Packing group: II

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis.
CERCLA/SARA Section 311/312: Immediate Health, Fire
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Toluene (CAS# 108-88-3). n-Butyl alcohol (CAS# 71-36-3).

CERCLA Reportable quantity: Toluene (CAS# 108-88-3) 1,000 lbs. (454 kg)
n-Butyl alcohol (CAS# 71-36-3) 5,000 lbs. (2,270 kg)

California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: This Safety Data Sheet contains changes from the previous version in Section(s): 3

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