



Revision Number: 003.1

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**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product name:** BONDERITE S-FN 333 DRYFILM COATING ACHESON known as EMRALON333  
**Product type:** Dry film lubricant  
**Restriction of Use:** None identified  
**Company address:** Henkel Corporation  
 One Henkel Way  
 Rocky Hill, Connecticut 06067

**IDH number:** 1224883

**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**

**WARNING:** FLAMMABLE LIQUID AND VAPOR.  
 CAUSES SKIN IRRITATION.  
 CAUSES SERIOUS EYE IRRITATION.  
 MAY CAUSE DROWSINESS OR DIZZINESS.

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

**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. Wear protective gloves, eye protection, and face protection.

**Response:** 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. If skin irritation 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.

**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*
N-Methyl-2-pyrrolidone	872-50-4	40 - 50
Methoxypropyl acetate 2-	108-65-6	20 - 30
Carbon black	1333-86-4	1 - 5
4,4'-Methylenedianiline	101-77-9	0 - 0.1

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

### 4. FIRST AID MEASURES

<b>Inhalation:</b>	If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.
<b>Skin contact:</b>	Immediately wash skin thoroughly with soap and water. If symptoms develop and persist, get medical attention.
<b>Eye contact:</b>	In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.
<b>Ingestion:</b>	Get immediate medical attention. DO NOT induce vomiting unless directed to do so by medical personnel.
<b>Symptoms:</b>	See Section 11.

### 5. FIRE FIGHTING MEASURES

<b>Extinguishing media:</b>	Water spray (fog), foam, dry chemical or carbon dioxide.
<b>Special firefighting procedures:</b>	Wear full protective clothing. Wear self-contained breathing apparatus.
<b>Unusual fire or explosion hazards:</b>	Fire and Explosion hazards are DANGEROUS when this material is exposed to heat or flame. Formation of toxic gases is possible during heating or in fires.
<b>Hazardous combustion products:</b>	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.

<b>Environmental precautions:</b>	Prevent further leakage or spillage if safe to do so. Wear appropriate protective equipment and clothing during clean-up. Eliminate ignition sources including sources of electrical, static or frictional sparks.
<b>Clean-up methods:</b>	Absorb spill with inert material. Shovel material into appropriate container for disposal.

## 7. HANDLING AND STORAGE

- Handling:** Avoid breathing vapors or mists of this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not take internally. For industrial use only. Ground and bond all equipment as required (when transferring products).
- Storage:** For safe storage, store at or below 27 °C (80.6 °F). Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Do not handle or store near an open flame, heat or other sources of ignition. Product to be stored below 90° F.

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
N-Methyl-2-pyrrolidone	None	None	10 ppm (40 mg/m <sup>3</sup> ) TWA (SKIN)	None
Methoxypropyl acetate 2-	None	None	50 ppm TWA	None
Carbon black	3 mg/m <sup>3</sup> TWA Inhalable fraction.	3.5 mg/m <sup>3</sup> PEL	None	None
4,4'-Methylenedianiline	0.1 ppm TWA (SKIN)	0.005 ppm OSHA_ACT 0.01 ppm TWA 0.1 ppm STEL	None	None

- Engineering controls:** Use explosion-proof mechanical ventilation and local exhaust to control contaminants to within their occupational exposure limits during the use of this product.
- 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:** Wear safety glasses; chemical goggles (if splashing is possible).
- Skin protection:** Wear impervious gloves for prolonged contact. Recommended gloves include butyl rubber and neoprene. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state:** Liquid
- Color:** Black
- Odor:** Solvent
- Odor threshold:** Not available.
- pH:** Not applicable
- Vapor pressure:** 0.3 mm hg (20 °C (68°F)) calculated
- Boiling point/range:** > 35 °C (> 95°F)
- Melting point/ range:** Not determined
- Specific gravity:** 1.12 - 1.14
- Vapor density:** 1.0
- Flash point:** 57.2 °C (134.96 °F) Pensky Martens closed cup
- Flammable/Explosive limits - lower:** 1.5 %
- Flammable/Explosive limits - upper:** 10 %
- Autoignition temperature:** Not applicable
- Flammability:** Not applicable
- Evaporation rate:** 1

**Solubility in water:** Insoluble  
**Partition coefficient (n-octanol/water):** Not determined  
**VOC content:** 808 g/l  
**Viscosity:** 150 - 1,200 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:** Oxidizers. This product may react with oxidizing agents.  
**Reactivity:** Not available.  
**Conditions to avoid:** Keep away from heat, ignition sources and incompatible materials.

## 11. TOXICOLOGICAL INFORMATION

**Relevant routes of exposure:** Skin, Inhalation, Eyes

### Potential Health Effects/Symptoms

**Inhalation:** This product is irritating to the respiratory system. Overexposure may cause nervous system depression.  
**Skin contact:** This product is irritating to the skin. A component in this product may be absorbed through the skin, especially if skin is damaged.  
**Eye contact:** May cause moderate eye irritation. Prolonged contact may cause eye burns and corneal injury.  
**Ingestion:** Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
N-Methyl-2-pyrrolidone	Oral LD50 (Mouse) = 5,130 mg/kg Oral LD50 (Rat) = 4,320 mg/kg Oral LD50 (Rat) = 3,914 mg/kg Oral LD50 (Mouse) = 7,725 mg/kg Dermal LD50 (Rabbit) = 8,000 mg/kg	Blood, Bone Marrow, Central nervous system, Immune system, Irritant, Lung
Methoxypropyl acetate 2-	None	Irritant, Central nervous system
Carbon black	Oral LD50 (Rat) = > 8,000 mg/kg	Respiratory, Some evidence of carcinogenicity
4,4'-Methylenedianiline	Oral LD50 (Rat) = 120 mg/kg Oral LD50 (Rabbit) = 620 mg/kg Oral LD50 (Mouse) = 745 mg/kg Dermal LD50 (Rat) = > 2,500 mg/kg	Allergen, Blood, Eyes, Heart, Irritant, Kidney, Liver, Mutagen, Some evidence of carcinogenicity, Thyroid

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
N-Methyl-2-pyrrolidone	No	No	No
Methoxypropyl acetate 2-	No	No	No
Carbon black	No	Group 2B	No
4,4'-Methylenedianiline	Reasonably Anticipated to be a Human Carcinogen.	Group 2B	Yes

## 12. ECOLOGICAL INFORMATION

**Ecological information:** Not available.

## 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.

## 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:** Combustible liquid, n.o.s. (Methoxy propyl acetate)  
**Hazard class or division:** Combustible Liquid  
**Identification number:** NA 1993  
**Packing group:** III  
**DOT Hazardous Substance(s):** 4,4'-methylenedianiline

### International Air Transportation (ICAO/IATA)

**Proper shipping name:** Paint  
**Hazard class or division:** 3  
**Identification number:** UN 1263  
**Packing group:** III

### Water Transportation (IMO/MDG)

**Proper shipping name:** PAINT  
**Hazard class or division:** 3  
**Identification number:** UN 1263  
**Packing group:** III

## 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:** Ethene, tetrafluoro-, homopolymer (CAS# 9002-84-0).Fluoropolymer composite substance: Dry Melt Fluoropolymer Resin containing the chemical substances as specified in the ECA (CAS# 25067-11-2).

**CERCLA/SARA Section 302 EHS:** None above reporting de minimis.  
**CERCLA/SARA Section 311/312:** Immediate Health, Delayed 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). N-Methyl-2-pyrrolidone (CAS# 872-50-4).  
**CERCLA Reportable quantity:** 4,4'-Methylenedianiline (CAS# 101-77-9) 10 lbs. (4.54 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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