



Revision Number: 004.2

Issue date: 10/20/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: BONDERITE L-FM 929 FORMING LUBRICANT ACHESON known as REACTOBOND 929 **IDH number:** 598921

Product type: Corrosion Protection Agents for Metals **Region:** United States

Restriction of Use: None identified **Contact information:**

Company address: Henkel Corporation Telephone: +1 (860) 571-5100
 One Henkel Way MEDICAL EMERGENCY Phone: Poison Control Center
 Rocky Hill, Connecticut 06067 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: MAY BE CORROSIVE TO METALS.
 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
 MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.

| HAZARD CLASS | HAZARD CATEGORY |
|---------------------------|-----------------|
| CORROSIVE TO METALS | 1 |
| SKIN CORROSION | 1A |
| SERIOUS EYE DAMAGE | 1 |
| RESPIRATORY SENSITIZATION | 1 |

PICTOGRAM(S)



Precautionary Statements

Prevention: Keep only in original container. Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection. In case of inadequate ventilation wear respiratory protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Immediately call a poison control center or physician. If experiencing respiratory symptoms: Call a poison center or physician. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage: Store locked up. Store in corrosive resistant container with a resistant inner liner.

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).

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See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Component(s) | CAS Number | Percentage* |
|---|-------------|-------------|
| Petroleum Distillates | Proprietary | 30 - 60 |
| Oleyl dihydrogen phosphate | 7722-71-6 | 10 - 30 |
| Oleic acid | 112-80-1 | 10 - 30 |
| Phosphoric acid | 7664-38-2 | 5 - 10 |
| Residual oils (petroleum), solvent-refined | Proprietary | 5 - 10 |
| Polyphosphoric acids, compds. with oleylamine | 74232-10-3 | 5 - 10 |
| Hexadecyl dihydrogen phosphate | 3539-43-3 | 1 - 5 |
| Linoleic acid | 60-33-3 | 1 - 5 |

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

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|----------------------------|---|
| Inhalation: | If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist. |
| Skin contact: | Remove contaminated clothing and footwear. For skin contact, flush with large amounts of water. Seek immediate medical attention. |
| Eye contact: | In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention. |
| Ingestion: | 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. |
| Notes to physician: | This material, if aspirated into the lungs, may cause lipid pneumonitis. Treat affected person appropriately. |

5. FIRE FIGHTING MEASURES

| | |
|---|---|
| Extinguishing media: | Water spray (fog), foam, dry chemical or carbon dioxide. |
| Special firefighting procedures: | Wear full protective clothing. Wear self-contained breathing apparatus. |
| Unusual fire or explosion hazards: | This product is combustible at high temperatures. |
| Hazardous combustion products: | Irritating and toxic gases or fumes may be released during a fire. |

6. ACCIDENTAL RELEASE MEASURES

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

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|-----------------------------------|---|
| Environmental precautions: | Prevent further leakage or spillage if safe to do so. Wear appropriate personal protective equipment. Surfaces may become slippery after spillage. |
| 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: Avoid contact with eyes, skin and clothing. Avoid the generation of oil mists. Provide adequate ventilation. Wash thoroughly after handling. Do not take internally.

Storage: For safe storage, store at or above 10 °C (50°F) Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode.

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 |
|---|--|---|-----------|-------|
| Petroleum Distillates | 5 mg/m ³ TWA mist 10 mg/m ³ STEL mist | 5 mg/m ³ TWA mist 500 ppm (2,000 mg/m ³) PEL 5 mg/m ³ PEL Mist. | None | None |
| Oleyl dihydrogen phosphate | None | None | None | None |
| Oleic acid | None | None | None | None |
| Phosphoric acid | 3 mg/m ³ STEL 1 mg/m ³ TWA | 1 mg/m ³ PEL | None | None |
| Residual oils (petroleum), solvent-refined | None | None | None | None |
| Polyphosphoric acids, compds. with oleylamine | None | None | None | None |
| Hexadecyl dihydrogen phosphate | None | None | None | None |
| Linoleic acid | None | None | None | None |

Engineering controls: Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling 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 chemical goggles; face shield (if splashing is possible).

Skin protection: Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|--|--|
| Physical state: | Liquid |
| Color: | Dark brown |
| Odor: | Mineral oil |
| Odor threshold: | Not available. |
| pH: | < 2 |
| Vapor pressure: | Not determined |
| Boiling point/range: | 212 °F (100°C) calculated |
| Melting point/ range: | Not determined |
| Specific gravity: | 0.9 - 1.0 |
| Vapor density: | Not determined |
| Flash point: | > 200 °F (> 93.33 °C) Tagliabue closed cup |
| Flammable/Explosive limits - lower: | Not determined |
| Flammable/Explosive limits - upper: | Not determined |
| Autoignition temperature: | Not determined |

| | |
|---|----------------|
| Evaporation rate: | Not determined |
| Solubility in water: | Negligible |
| Partition coefficient (n-octanol/water): | Not determined |
| VOC content: | Not determined |
| Viscosity: | Not available. |
| Decomposition temperature: | Not available. |

10. STABILITY AND REACTIVITY

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|--|--|
| Stability: | Stable at normal conditions. |
| Hazardous reactions: | Will not occur. |
| Hazardous decomposition products: | Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Decomposes with heat to produce oxides of nitrogen. |
| Incompatible materials: | This product may react with oxidizing agents. This product may react with strong alkalis. |
| Reactivity: | Not available. |
| Conditions to avoid: | Keep away from heat, ignition sources and incompatible materials. |

11. TOXICOLOGICAL INFORMATION

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|-------------------------------------|------------------------|
| Relevant routes of exposure: | Skin, Inhalation, Eyes |
|-------------------------------------|------------------------|

Potential Health Effects/Symptoms

Inhalation: Mists, vapors or liquid may cause severe irritation or burns. Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.

Skin contact: Contact with liquid may produce severe skin irritation including redness, inflammation and chemical burns. This product contains a component that may cause allergic skin reactions.

Eye contact: This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Ingestion: This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

| Hazardous Component(s) | LD50s and LC50s | Immediate and Delayed Health Effects |
|---|---|---|
| Petroleum Distillates | None | Irritant |
| Oleyl dihydrogen phosphate | None | No Records |
| Oleic acid | Oral LD50 (RAT) = 74 g/kg | Irritant, Eyes, Skin, Blood |
| Phosphoric acid | Oral LD50 (RAT) = 1,530 mg/kg Dermal LD50 (RABBIT) = 2,740 mg/kg | Irritant, Corrosive |
| Residual oils (petroleum), solvent-refined | None | Irritant |
| Polyphosphoric acids, compds. with oleylamine | None | No Records |
| Hexadecyl dihydrogen phosphate | None | No Target Organs |
| Linoleic acid | None | Allergen, Central nervous system, Irritant, Respiratory |

| Hazardous Component(s) | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen (Specifically Regulated) |
|---|----------------|-----------------|--|
| Petroleum Distillates | No | No | No |
| Oleyl dihydrogen phosphate | No | No | No |
| Oleic acid | No | No | No |
| Phosphoric acid | No | No | No |
| Residual oils (petroleum), solvent-refined | No | No | No |
| Polyphosphoric acids, compds. with oleylamine | No | No | No |
| Hexadecyl dihydrogen phosphate | No | No | No |
| Linoleic acid | No | No | No |

12. ECOLOGICAL INFORMATION

Ecological information: Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

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| Recommended method of disposal: | This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002). This chemical contains phosphates. |
| Hazardous waste number: | This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002). |

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: | RQ, Environmentally hazardous substances, liquid, n.o.s. |
| Hazard class or division: | 9 |
| Identification number: | UN 3082 |
| Packing group: | III |

International Air Transportation (ICAO/IATA)

| | |
|----------------------------------|---|
| Proper shipping name: | Environmentally hazardous substance, liquid, n.o.s. |
| Hazard class or division: | 9 |
| Identification number: | UN 3082 |
| Packing group: | III |

Water Transportation (IMO/IMDG)

| | |
|----------------------------------|---|
| Proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Hazard class or division: | 9 |
| Identification number: | UN 3082 |
| Packing group: | III |
| Additional information: | IMDG-Code: Segregation group 1- Acids |

15. REGULATORY INFORMATION

United States Regulatory Information

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|---|---|
| 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, Delayed Health |
| CERCLA/SARA Section 313: | None above reporting de minimis |
| California Proposition 65: | No California Proposition 65 listed chemicals are known to be present. |

Canada Regulatory Information

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|------------------------------|---|
| CEPA DSL/NDSL Status: | Contains one or more components listed on the Non-Domestic Substances List. All other components are listed on or are exempt from listing on the Domestic Substances List. Components listed on the NDSL must be tracked by all Canadian Importers of Record as required by Environment Canada. They may be imported into Canada in limited quantities. Please contact Regulatory Affairs for additional details. |
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16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

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| Prepared by: | Cheryl Neason, Regulatory Affairs Specialist |
| Issue date: | 10/20/2014 |

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