

SAFETY DATA SHEET

Issuing Date 15-Jun-2015

Revision Date 13-Apr-2016

Revision Number 2



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name E91BP-4, E91BP-4UP, E91BP-8, E91BP-12, E91BP-20W

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Alkaline battery

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Energizer Battery

Supplier Address 533 Maryville University Drive
St. Louis
MO
63141
US

Supplier Phone Number Phone:314-985-2000

Supplier Email travisr.stevener@energizer.com

Emergency telephone number

Company Emergency Phone Number 314-985-1500

2. HAZARDS IDENTIFICATION

Classification


This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is an article which is a sealed battery and as such does not require an MSDS per the OSHA hazard communication standard unless ruptured. The hazards indicated are for a ruptured battery.



| | |
|--|---------------------------|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Inhalation (Gases) | Category 2 |
| Acute toxicity - Inhalation (Vapors) | Category 2 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 2 |
| Skin corrosion/irritation | Category 1 Sub-category A |
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Category 1 |
| Carcinogenicity | Category 1A |
| Reproductive Toxicity | Category 1A |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 1 |

GHS Label elements, including precautionary statements

Emergency Overview

| | |
|---|-----------------------------|
| Signal word | Danger |
| Hazard Statements | |
| Harmful if swallowed Fatal if inhaled Causes severe skin burns and eye damage May cause an allergic skin reaction May cause cancer May damage fertility or the unborn child May cause respiratory irritation. May cause drowsiness or dizziness | |
|  | |
| This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold. Intended use of the product should not result in exposure to the chemical substance. This is a battery. In case of rupture: the above hazards exist. | |
| Appearance Silver | Physical state Solid |
| Odor None | |

Precautionary Statements - Prevention

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Do not breathe dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Wear respiratory protection
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves

Precautionary Statements - Response

- Specific treatment is urgent (see .? on this label)
- Immediately call a POISON CENTER or doctor/physician



Specific treatment (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician

Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

6 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

Very toxic to aquatic life with long lasting effects
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Interactions with Other Chemicals

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | CAS No | Weight-% | Trade Secret |
|------------------------------|------------|----------|--------------|
| Manganese dioxide | 1313-13-9 | 30 - 60 | * |
| Zinc | 7440-66-6 | 10 - 30 | * |
| Steel manufacture, chemicals | 65997-19-5 | 10 - 30 | * |
| Potassium hydroxide | 1310-58-3 | 5 - 10 | * |
| Graphite | 7782-42-5 | 3 - 7 | * |

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

4. FIRST AID MEASURES



First aid measures**General Advice**

This is a battery. In case of rupture: Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek immediate medical attention/advice. May cause an allergic skin reaction.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur. Do not breathe dust.

Ingestion

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms and effects, both acute and delayed**Most Important Symptoms and Effects**

Burning sensation. Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. Product is or contains a sensitizer. May cause sensitization by skin contact.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other Information

Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling In case of rupture. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection equipment.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible Products Acids. Bases. Oxidizing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|--|---|---|
| Manganese dioxide 1313-13-9 | TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn | (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn | IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn |
| Zinc 7440-66-6 | STEL: 10 mg/m ³ respirable fraction TWA: 2 mg/m ³ respirable fraction | TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction | IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume |
| Steel manufacture, chemicals 65997-19-5 | STEL: 10 mg/m ³ Zr TWA: 0.05 mg/m ³ Pb TWA: 0.00005 mg/m ³ Be inhalable fraction TWA: 1 mg/m ³ Cu dust and mist TWA: 0.2 mg/m ³ Se TWA: 1 mg/m ³ Y TWA: 5 mg/m ³ Zr TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn TWA: 0.5 mg/m ³ Hf S* | TWA: 50 µg/m ³ Pb TWA: 2 µg/m ³ Be TWA: 0.2 mg/m ³ Se TWA: 5 mg/m ³ Zr Action Level: 30 µg/m ³ Pb Poison, See 29 CFR 1910.1025 (vacated) TWA: 2 µg/m ³ Be (vacated) TWA: 0.2 mg/m ³ Se (vacated) TWA: 5 mg/m ³ Zr (vacated) STEL: 25 µg/m ³ 30 min (vacated) STEL: 10 mg/m ³ Zr (vacated) Ceiling: 5 µg/m ³ (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 µg/m ³ Be Ceiling: 5 mg/m ³ Mn | IDLH: 4 mg/m ³ Be IDLH: 100 mg/m ³ Cu dust and mist IDLH: 500 mg/m ³ Mn IDLH: 1 mg/m ³ Se IDLH: 500 mg/m ³ Y IDLH: 25 mg/m ³ Zr IDLH: 100 mg/m ³ Pb IDLH: 10 mg/m ³ Ni IDLH: 50 mg/m ³ Hf Ceiling: 0.05 mg/m ³ V dust and fume 15 min Ceiling: 0.0005 mg/m ³ Be TWA: 1 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Mn TWA: 0.2 mg/m ³ except Selenium hexafluoride Se TWA: 1 mg/m ³ Y TWA: 5 mg/m ³ except Zirconium tetrachloride Zr TWA: 0.050 mg/m ³ Pb TWA: 0.015 mg/m ³ except Nickel carbonyl Ni TWA: 0.5 mg/m ³ Hf STEL: 3 mg/m ³ Mn STEL: 10 mg/m ³ Zr |
| Potassium hydroxide 1310-58-3 | Ceiling: 2 mg/m ³ | (vacated) Ceiling: 2 mg/m ³ | Ceiling: 2 mg/m ³ |
| Graphite 7782-42-5 | TWA: 2 mg/m ³ respirable fraction all forms except graphite fibers | TWA: 15 mg/m ³ total dust synthetic TWA: 5 mg/m ³ respirable fraction synthetic | IDLH: 1250 mg/m ³ TWA: 2.5 mg/m ³ respirable dust |

| | | | |
|--|--|---|--|
| | | (vacated) TWA: 2.5 mg/m ³ respirable dust natural (vacated) TWA: 10 mg/m ³ total dust synthetic (vacated) TWA: 5 mg/m ³ respirable fraction synthetic TWA: 15 mppcf natural | |
|--|--|---|--|

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield.

Skin and body protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use. Do not breathe dust.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | | | |
|-----------------------|--------------------------|-----------------------|--------------------------|
| Physical state | Solid | Odor | None |
| Appearance | Silver | Odor Threshold | No information available |
| Color | No information available | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks</u> | <u>Method</u> |
|-------------------------------|-------------------|----------------|---------------|
| pH | No data available | None known | |
| Melting / freezing point | No data available | None known | |
| Boiling point / boiling range | No data available | None known | |
| Flash Point | No data available | None known | |
| Evaporation Rate | No data available | None known | |
| Flammability (solid, gas) | No data available | None known | |
| Flammability Limit in Air | | | |
| Upper flammability limit | No data available | | |



| | | |
|---|--------------------|------------|
| Lower flammability limit | No data available | |
| Vapor pressure | No data available | None known |
| Vapor density | No data available | None known |
| Specific Gravity | No data available | None known |
| Water Solubility | Insoluble in water | None known |
| Solubility in other solvents | No data available | None known |
| Partition coefficient: n-octanol/water | No data available | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Explosive properties | No data available | |
| Oxidizing properties | No data available | |

Other Information

| | |
|-----------------------------------|-------------------|
| Softening Point | No data available |
| VOC Content (%) | No data available |
| Particle Size | No data available |
| Particle Size Distribution | |

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Acids. Bases. Oxidizing agent.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

| | |
|----------------------------|--|
| Product Information | Product does not present an acute toxicity hazard based on known or supplied information. In case of rupture:. |
| Inhalation | Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Fatal if inhaled. |

| | |
|---------------------|---|
| Eye contact | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes. |
| Skin contact | Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. |
| Ingestion | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|----------------------------------|----------------------|-------------|-----------------|
| Manganese dioxide 1313-13-9 | = 9000 mg/kg (Rat) | - | - |
| Potassium hydroxide 1310-58-3 | = 284 mg/kg (Rat) | - | - |

Information on toxicological effects

Symptoms Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause sensitization in susceptible persons. May cause sensitization by skin contact.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | ACGIH | IARC | NTP | OSHA |
|---|----------|--|---------------------------------|------|
| Steel manufacture, chemicals 65997-19-5 | A1 A3 | Group 1 Group 2A Group 2B Group 3 | Known Reasonably Anticipated | X |

Reproductive toxicity Contains a known or suspected reproductive toxin.

STOT - single exposure No information available.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

Chronic Toxicity Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Effects from this product caused by acute exposure may cause permanent damage to target organs and/or may

cause chronic conditions. Contains a known or suspected carcinogen. Contains a known or suspected reproductive toxin. Possible risk of irreversible effects. Avoid repeated exposure. Prolonged exposure may cause chronic effects.

Target Organ Effects

Eyes. Respiratory system. Skin. Gastrointestinal tract (GI). Systemic Toxicity. Reproductive System.

Aspiration Hazard

No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

307.00 mg/kg

ATEmix (inhalation-gas)

435.00 ppm (4 hr)

ATEmix (inhalation-dust/mist)

0.21 mg/l

ATEmix (inhalation-vapor)

2.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life. Very toxic to aquatic life with long lasting effects.

| Chemical name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|----------------------------------|---|---|----------------------------|------------------------------|
| Zinc 7440-66-6 | 96h EC50: 0.11 - 0.271 mg/L (Pseudokirchneriella subcapitata) 72h EC50: 0.09 - 0.125 mg/L (Pseudokirchneriella subcapitata) | 96h LC50: = 3.5 mg/L (Lepomis macrochirus) 96h LC50: = 7.8 mg/L (Cyprinus carpio) 96h LC50: = 0.24 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.59 mg/L (Oncorhynchus mykiss) 96h LC50: = 0.41 mg/L (Oncorhynchus mykiss) 96h LC50: 0.211 - 0.269 mg/L (Pimephales promelas) 96h LC50: = 2.66 mg/L (Pimephales promelas) 96h LC50: = 30 mg/L (Cyprinus carpio) 96h LC50: = 0.45 mg/L (Cyprinus carpio) 96h LC50: 2.16 - 3.05 mg/L (Pimephales promelas) | | 48h EC50: 0.139 - 0.908 mg/L |
| Potassium hydroxide 1310-58-3 | | 96h LC50: = 80 mg/L (Gambusia affinis) | | |

Persistence and Degradability

No information available.

Bioaccumulation

No information available

| Chemical name | Log Pow |
|----------------------------------|---------|
| Manganese dioxide 1313-13-9 | <0 |
| Potassium hydroxide 1310-58-3 | 0.83 |

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging

Do not reuse empty containers.

California Hazardous Waste Codes 141

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical name | California Hazardous Waste |
|--|----------------------------|
| Zinc 7440-66-6 | Ignitable powder Toxic |
| Steel manufacture, chemicals 65997-19-5 | Toxic |
| Potassium hydroxide 1310-58-3 | Toxic Corrosive |

14. TRANSPORT INFORMATION

DOT
 Proper Shipping Name NOT REGULATED
 Hazard Class NON REGULATED
 N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA
 Proper Shipping Name Not regulated
 Hazard Class NON REGULATED
 N/A

IMDG/IMO
 Hazard Class Not regulated
 N/A

RID Not regulated

ADR Not regulated

ADN Not regulated

15. REGULATORY INFORMATION

International Inventories



TSCA Complies
 DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical name | CAS No | Weight-% | SARA 313 - Threshold Values % |
|---|------------|----------|-------------------------------|
| Manganese dioxide - 1313-13-9 | 1313-13-9 | 30 - 60 | 1.0 |
| Zinc - 7440-66-6 | 7440-66-6 | 10 - 30 | 1.0 |
| Steel manufacture, chemicals - 65997-19-5 | 65997-19-5 | 10 - 30 | 1.0 |
| | | | 0.1 |

SARA 311/312 Hazard Categories

Acute Health Hazard No
 Chronic Health Hazard No
 Fire Hazard No
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---|-----------------------------|------------------------|---------------------------|----------------------------|
| Zinc 7440-66-6 | | X | X | |
| Steel manufacture, chemicals 65997-19-5 | | X | | |
| Potassium hydroxide 1310-58-3 | 1000 lb | | | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|----------------------------------|--------------------------|------------------------------------|---|
| Zinc 7440-66-6 | 1000 lb | | RQ 454 kg final RQ RQ 1000 lb final RQ |
| Potassium hydroxide 1310-58-3 | 1000 lb | | RQ 1000 lb final RQ RQ 454 kg final RQ |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

| Chemical name | New Jersey | Massachusetts | Pennsylvania | Rhode Island | Illinois |
|---------------|------------|---------------|--------------|--------------|----------|
| | | | | | |



| | | | | | |
|----------------------------------|---|---|---|---|---|
| Zinc 7440-66-6 | X | X | X | X | |
| Potassium hydroxide 1310-58-3 | X | X | X | X | |
| Manganese dioxide 1313-13-9 | | | X | X | X |
| Graphite 7782-42-5 | X | X | X | | |

International Regulations

| Chemical name | Carcinogen Status | Exposure Limits |
|------------------------------|-------------------|--|
| Manganese dioxide | | Mexico: TWA= 0.2 mg/m ³ |
| Steel manufacture, chemicals | A3 A2 | Mexico: TWA 0.15 mg/m ³ Mexico: TWA 0.002 mg/m ³ Mexico: TWA 0.2 mg/m ³ Mexico: TWA 5 mg/m ³ Mexico: STEL 10 mg/m ³ |
| Graphite | | Mexico: TWA= 2 mg/m ³ |

Canada

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

| | | | | |
|-------------|-------------------------|-----------------------|--------------------------|--|
| NFPA | Health Hazards 1 | Flammability 0 | Instability 0 | Physical and Chemical Hazards - |
| HMIS | Health Hazards 0 | Flammability 0 | Physical Hazard 0 | Personal Protection X |

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 15-Jun-2015
Revision Date 13-Apr-2016
Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

