# Safety Data Sheet

## Manhole Steps, NCR

June 25, 2014

The American Step Company, Inc. NRC product line of manhole steps consist of two basic materials: steel and copolymer polypropylene. Please find the attached safety data sheets from our suppliers on these two items.

PLASTIC INJECTION MOLDERS
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Office: (770) 467-9844 ● **Fax:** (770) 467-8011
www.americanstep.com

June 25, 2014

To: ALL KEYSTONE STEEL & WIRE PRODUCT CUSTOMERS, DISTRIBUTORS, AND USERS

Enclosed is the general MSDS for all Keystone Steel & Wire low carbon steel wire products that you have recently purchased. This MSDS is provided to comply with OSHA (29 CFR 1910.1200), SARA 313, and KSW's policy of communicating to our customers the pertinent health and safety information necessary for the safe handling and use of Keystone's products.

The information contained in this MSDS or labels of applicable Keystone products may not necessarily address all issues of concern in your use of the products. Keystone recommends that you consult with an expert of your choice to determine whether or not your safety programs and warnings are adequate for your application.

Sincerely,

*Russ R. Perry*

Russ R. Perry, PG
Manager, Energy & Environmental Engineering
On behalf of Keystone Steel & Wire Company

# MATERIAL SAFETY DATA SHEET

IDENTITY: **LOW CARBON STEEL PRODUCTS - ALL GRADES**

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SECTION I

Manufacturer's Name:
KEYSTONE STEEL & WIRE CO.
Address:
7000 SW ADAMS ST.
PEORIA, IL 61641

Emergency Telephone No:
309-697-7020
Telephone No. for Information
309-697-7020

Date Prepared: May 13, 1999
Date Revised: February 26, 2004

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SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| Hazardous Components: | C.A.S. Number | % |
|---|---|---|
| Iron | 7439-89-6 | >99 |
| Manganese | 7439-96-5 | <1 |
| Zinc | 7440-66-6 | * |
| Lime | | * |

Percentages are representative of product and may vary depending on batch composition. Due to the variance in batch composition, trace quantities of antimony, arsenic, barium, beryillium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and thallium may be present in amounts <1%.

*A thin coating of oil, lime (<0.5% of total weight of product), or zinc (<2.4 % total weight of product) may be added to the surface as a corrosion inhibitor or preventative.

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SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

| | | | |
|---|---|---|---|
| Boiling Point: | N/A | Specific Gravity: | Approx. 8 |
| Vapor Pressure (mm Hg): | N/A | Melting Point: | 2800ºF |
| Vapor Density (Air = 1): | N/A | Evap.Rate (Butyl Acetate = 1): | N/A |
| Solubility in Water: | Negligible | | |
| Appearance and Odor: | odorless solid with metallic lustre | | |

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

| | | | |
|---|---|---|---|
| Flash Point (Method Used): | N/A | Flammable Limits: | N/A |
| Extinguishing Media | Dry Compound or Dry Powder | | |
| Special Fire Fighting Procedures: | NIOSH approved positive pressure, self contained breathing apparatus. | | |
| Unusual Fire and Explosion Hazards: | Spraying water on molten metal may cause an explosion. Use a dry type extinguisher. Product is non-combustible. | | |

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SECTION V - REACTIVITY DATA

| | | | |
|---|---|---|---|
| Stability: | Unstable _____<br>Stable XX | Conditions to Avoid: | N/A |
| Incompatibility (Materials to Avoid): | Strong acids or bases | | |
| Hazardous Decomposition or By-Products: | Metal fumes and certain noxious gases such as CO may be produced during welding or burning operations. | | |

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SECTION VI - HEALTH HAZARD DATA

| ROUTE(S) OF ENTRY: | Inhalation? | Skin? | Ingestion? |
|---|---|---|---|
| | XX | XX | |

Health Hazards:
(Acute and Chronic): No toxic effects are expected from its inert form. Prolonged, repeated exposure to fumes or dusts generated during heating, cutting, welding, or brazing may cause the following health effects:

Inhalation:

- Iron (Fe): Siderosis, no fibrosis
- Manganese (Mn): Pneumonitis. CNS involvement, including irritability, difficulty in walking, speech disorders, compulsive behavior, masklike face, and Parkinson like syndrome.
- Zinc (Zn): Zinc oxide fumes can cause metal fume fever with symptoms similar to flu: chills, fever, headache, cough, nausea, diarrhea, vomiting, etc.
- Soluble Oil: Pulmonary effects
- Lime (CaO): May cause irritation.

Skin Contact: May cause irritation. Soluble oil may cause dermatitis.

Eye Contact: May cause irritation.

Ingestion: May cause irritation to mouth and throat.

| CARCINOGENICITY: | NTP? | IARC Monographs? | OSHA Regulated? |
|---|---|---|---|
| | NO | NO | NO |

Sign and Symptoms of Exposure:

- Zinc (Zn): Metal Fume Fever
- Manganese (Mn): irritability, difficulty in walking, speech disorders, compulsive behavior, masklike face, and Parkinson like syndrome.

Medical Conditions Generally Aggravated by Exposure: None found

Emergency First Aid Procedures:

- Inhalation - If inhaled in large amounts, remove exposed person to fresh air. Get medical attention.
- Ingestion - Call a physician. If swallowed, if conscious, induce vomiting immediately.

Exposure Limits:

| Ingredient: | OSHA PEL (mg/M3) | ACGIH TLV (mg/M3) |
|---|---|---|
| Iron (Fe) | 10 (as $Fe_2O_3$ fume) | 5 (as $Fe_2O_3$ fume) |
| Manganese (Mn) | 5 | 1.0 (as fume) |
| Zinc (Zn) | 5-Fume or Respirable dust<br>10-Total dust | 5-Fume 10-Dust |
| Lime (CaO) | 5 | 5 |

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SECTION VII - PRECAUTIONS FOR SAFE HANDLING USE

| | |
|---|---|
| Steps To Be Taken in Case Material Is Released or Spilled: | Sweep up spill and place in a container. |
| Waste Disposal Method: | Dispose in accordance with all applicable federal, state, and local environmental regulations. Can often be sold for scrap metal. |
| Precautions To Be Taken In Handling and Storage: | N/A |
| Other Precautions: | Avoid breathing fume or dust. Store away from strong acids and bases. |

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SECTION VIII - CONTROL MEASURES

| | |
|---|---|
| Respiratory Protection (Specific Type): | NIOSH approved dust and fume cartridge respirator or supplied air if airborne dust or fume levels are or may be above the PEL. Consult respirator manufacturer for assistance in choosing appropriate respirator. If respirators are used, employees must have a respirator program which complies with OSHA 1910.134 |
| Ventilation: | Local Exhaust - Use to maintain airborne levels below PEL. |
| Protective Gloves: | Standard |
| Eye Protection: | As necessary to protect against particles or radiation from welding type operations. |
| Other Protective Clothing or Equipment: | As needed to protect against heat. |
| Work/Hygienic Practices: | Use good personal hygiene to avoid ingestion or inhalation through food or smoking. |

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SARA 313 INFORMATION:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

| CHEMICAL NAME | CONCENTRATION |
|---|---|
| Combination of Zinc (CAS No. 7440-66-6) and Zinc Oxide (CAS No. 1314-13-2) | <2.4% |
| Manganese (CAS No. 7439-96-5) | <1% |

Percentages are representative of product and may vary depending on batch composition.

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NFPA RATINGS:
Health – 1
Flammability – 0
Reactivity – 0
Special Hazards - NA

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The information herein is provided in good faith and is believed to be correct and complete as of the date issued. This document is intended as a guide to appropriate handling precautions for the material. The user is responsible for determining the precautions and dangers of this material for his or her particular application.

No representations or warranties either expressed or implied of merchantability, fitness for a particular purpose or any other nature are made with respect to either the information set forth herein or to the product to which the information refers.

Keystone Steel and Wire shall not be liable for any loss or damage directly or indirectly arising form the use of this product. Keystone Steel and Wire assumes no obligation or liability for reliance on the information contained in this data sheet.

# Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

**U.S. Department of Labor**
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

**IDENTITY** *(As Used on Label and List)*
**Polypropylene Copolymer with ethylene- CAS#: 9010-79-1**

*Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.*

## Section I

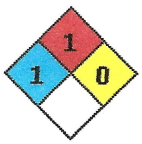
| | |
|---|---|
| Manufacturer's Name<br>**KW Plastics, Inc.** | Emergency Telephone Number<br>**(334) 566-1563** |
| Address *(Number, Street, City, State, and ZIP Code)*<br>**1 Sanders Road** | Telephone Number for Information<br>**(334) 566-1563** |
| **P.O. Drawer 707** | Date Prepared<br>**11/9/2007** |
| **Troy, AL 36081** | Signature of Preparer *(optional)* |

## Section II -- Hazardous Ingredients/Identity Information

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL | ACGIH TLV | Other Limits Recommended | % *(optional)* |
|---|---|---|---|---|
| **OSHA (USA) hazardous chemical(s) according to 29 CFR 1910.1200: 1** | | | | |
| **Carbon Black (Amorphous Carbon) (at < 1%)** | **3.5 mg/m$^3$** | **3.5 mg/m$^3$** | | |
| **CAS # 1333-86-4** | | | | |

Carbon Black is a nuisance dust which may irritate nasal and respiratory passages; therefore, inhalation should be avoided. The Carbon Black contained in the product is completely encapsulated in thermoplastic, however, and should not present a dust hazard.

**NFPA Hazard Ratings: Health - 1, Flammability - 1, Chemical Reactivity - 0**




## Section III -- Physical/Chemical Characteristics

| | | | |
|---|---|---|---|
| Boiling Point | **N/A** | Specific Gravity (H2O = 1) | **0.95** |
| Vapor Pressure (mm Hg.) | **N/A** | Melting Point | **349 ° F** |
| Vapor Density (AIR = 1) | **N/A** | Evaporation Rate (Butyl Acetate = 1) | **N/A** |

Solubility in Water
**INSOLUBLE**

Appearance and Odor
**BLACK PELLETS with mild odor**

## Section IV -- Fire and Explosion Hazard Data

| Flash Point (Method Used) | Flammable Limits | LEL | UEL |
|---|---|---|---|
| **CLEVELAND OPEN CUP 625 ° F** | **N/A** | **N/A** | **N/A** |

Extinguishing Media **FOAM OR FOG ($CO_2$, dry chemical, water fog). Do not use a direct water stream. Avoid accumulation of water, as product will float.**

Special Fire Fighting Procedures
**RESPIRATORY AND EYE PROTECTION REQUIRED FOR FIRE FIGHTING PERSONNEL.**
**Use full-body protective clothing and full-facepiece, self contained breathing apparatus operated in a positive-pressure mode.**
**Cool fire-exposed containers, surrounding equipment, and structures with water.**

Unusual Fire and Explosion Hazard **Oxygen - Lean conditions may produce carbon monoxide and irritating smoke.**
**Powdered material may form explosive dust-air mixtures. Minimize dust generation and accumulation.**

**Refer to NFPA Pamphlet No. 654,** ***Prevention of Fire and Dust Explosions in the Chemical Dye, Pharmaceutical, and Plastics Industries***

## Section V -- Reactivity Data

| Stability | | | |
|---|---|---|---|
| | Unstable | | Conditions to Avoid<br>**Avoid accumulation of dust; temperatures over 480 ° F may cause** |
| | Stable | X | **resin degradation. Heating above 675 ° F air - Will burn.** |

Incompatibility *(Materials to Avoid)*
**Material can react with oxidizers.**

Hazardous Decomposition or Byproducts **In lean $O_2$ conditions, CO and organics of unknown chemical composition and toxicity. Complete combustion (requiring abundance of oxygen & complete consumption of material) will produce harmless $CO_2$ and water.**

| Hazardous Polymerization | | | |
|---|---|---|---|
| **None.** | May Occur | | Conditions to Avoid |
| | Will Not Occur | X | **N/A** |

## Section VI -- Health Hazard Data

| Route(s) of Entry: | Inhalation? | Skin? | Ingestion? |
|---|---|---|---|
| | **NONE** | **NONE IF NOT MOLTEN** | **NONE** |

Health Hazards *(Acute and Chronic)* **Inhalation and Ingestion: Low hazard for usual industrial handling.**
**Eyes: No specific hazard known; however, any material contacting the eye may cause irritation or mechanical damage.**
**Skin: Molten material will cause thermal burns.**
**Acute Toxicity Data: Oral: >8000 mg/kg (mouse); Inhalation: N/A; Dermal: N/A; Skin Irritation: None (human);**
**Skin Sensitization: None (human)**
**No chronic hazards known.**

| Carcinogenicity? | NTP? | IARC Monographs? | OSHA Regulated? |
|---|---|---|---|
| **N/A** | **N/A** | **N/A** | **N/A** |

Signs and Symptoms of Exposure
**NONE EXPECTED**

Medical Conditions
Generally Aggravated by Exposure **N/A**

Emergency and First Aid Procedures **EYES: Any material that contacts eyes should be washed out immediately and medical attention obtained if symptoms persist.**
**INHALATION: If symptomatic, remove to fresh air and get medical attention if symptoms persist.**
**SKIN: If burned by contact with molten material, cool as quickly as possible with water and see a physician for treatment of thermal burn. DO NOT PEEL.**
**INGESTION: Material is not expected to absorbed from the gastrointestinal tract; induction of vomiting should not be necessary.**

## Section VII -- Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
**Sweep or scoop up and dispose of properly.**
**Dust material should be vacuumed, or wet swept where vacuuming is not feasible. Particulate matter should be stored in dry containers for later disposal or reclamation. Do not use compressed air or dry sweeping as a means of cleaning.**

Waste Disposal Method
**Bury in a suitable landfill or incinerate where permitted under appropriate Federal, State, and local regulations.**

Precautions to Be Taken in Handling and Storing **Solid material may burn at or above flashpoint & airborne dust may explode if ignited. If thermally decomposed, flammable toxic gases may be released. Toxic gases will form upon combustion.**
**Static discharge material can accumulate static charges which can cause an incendiary electrical discharge.**
**Keep from contact with oxidizing materials.**

Other Precautions
**None.**

## Section VIII -- Control Measures

Respiratory Protection *(Specify Type)*
**No special respiratory protection is normally required. Dust respirator if dust is present. An approved respirator should be worn if needed.**

| Ventilation | | | |
|---|---|---|---|
| **None special** | Local Exhaust<br>**None** | | Special<br>**None** |
| | Mechanical | *(General)*<br>**Acceptable** | Other<br>**None** |

| Protective Gloves | Eye Protection |
|---|---|
| **For handling hot material to protect from thermal burns.** | **Chemical safety goggles (or glasses with side shields).** |

Other Protective Clothing or Equipment
**Eye bath and safety shower recommended.**

Work/Hygenic Practices **Normal. No special preventive measures shouldbe needed under anticipated conditions of use.**
**Recommendations for personal protection are for industrial handling; laboratory requirements should be in accordance with good lab practi**


* U.S.G.P.O.: 1986-491-529/45775