# MATERIAL SAFETY DATA SHEET
# STEEL PRODUCTS

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| CODE NO.: na | |
| ORIGINAL ISSUE DATE: 4/11/10 | REVISED: 1/1/2015 |

## I. IDENTIFICATION

PRODUCT NAME: Galvanized Carbon Steel; Pipe, Tube & Open profile shapes.

COMMON NAME (S): EMT, COLORED EMT, IMC, RIGID, FENCE, MECHANICAL, ANGLE, CHANNEL

INFORMATION AND EMERGENCY TELEPHONE NUMBERS
(708) 339-1610

MANUFACTURER:
Allied Tube & Conduit Corp
16100 South Lathrop Avenue
Harvey, IL 60426

## II. INGREDIENTS AND RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS

Note: Steel Products under normal conditions do not present an inhalation, ingestion, or contact health hazard (See Section VI).

| BASE METAL, ALLOYING ELEMENTS AND METALLIC COATINGS | % WEIGHT | EXPOSURE LIMITS* During operations (such as welding, burning, or cutting) where dust or fumes are generated. | |
|---|---|---|---|
| | | OSHA PEL | ACGIH TLV (1992-1993) |
| Base Metal: Iron<br>CAS 7439-89-6 | 95.7 – 98.3 | 10 mg/M$^3$ for total particulate as iron oxide – total dust<br>5 mg/M$^3$ for total particulate-respirable fraction | 5 mg/M$^3$ for iron oxide fumes |
| Alloying Elements:<br>Carbon<br>CAS 7440-44-0 | 0.25 max | 10 mg/M$^3$ for total dust (pnor) [d]<br>5mg/M$^3$ for respirable fraction (pnor) [d] | 10 mg/M$^3$ for total dust (pnos) [e]<br>3 mg/M$^3$ for respirable fraction (pnos) [e] |
| *Manganese<br>CAS 7439-96-5 | 0.95 max | (c) 5 mg/M$^3$ – compounds<br>(b) 3 mg/M$^3$ – fume<br>1 mg/M$^3$ - fume | 5 mg/M$^3$ – dust & compounds<br>1 mg/M$^3$ – fume<br>(b) 3 mg/M$^3$ - fume |
| *Phosphorus<br>CAS 8049-19-2 | 0.035 max | 10 mg/M$^3$ for total dust (pnor) [d]<br>5mg/M$^3$ for respirable fraction (pnor) [d] | 10 mg/M$^3$ for total dust (pnos) [e]<br>3 mg/M$^3$ for respirable fraction (pnos) [e] |
| Sulfur<br>CAS 7704-21-3 | 0.035 max | 5 mg/M$^3$ as sulfur dioxide<br>(b) 10 mg/M$^3$ – as sulfur dioxide | 5.2 mg/M$^3$ as sulfur dioxide<br>(b) 13 mg/M$^3$ – as sulfur dioxide |
| Metallic Coating:<br>*Zinc<br>CAS NO 7440-66-6<br>Zinc Dust or Fume | 0.50 – 3.00 | 5 mg/M$^3$ as zinc oxide fume<br>(b) 10 mg/m$^3$ – zinc oxide fume<br>10 mg/M$^3$ - zinc oxide dust<br>5 mg/M$^3$ - zinc oxide respirable fraction | 10 mg/M$^3$ - zinc oxide total dust<br>5 mg/M$^3$ - zinc oxide fume<br>(b) 10 mg/M$^3$ – zinc oxide fume |
| *Aluminum<br>CAS NO 7429-90-5<br>Aluminum Dust or Fume | <0.10 | 15 mg/M$^3$ – metal dust<br>5 mg/M$^3$ – respirable fraction | 10 mg/M$^3$ – dust<br>5 mg/M$^3$ – welding fumes |
| *Chromium<br>CAS 7440-47-3 | <0.0005 | 1 mg/M$^3$ as metal | 0.5 mg/M$^3$ as metal or Cr III compounds |
| Polymeric OD Coatings | <0.50 | Particulates not otherwise regulated- nuisance or inert dusts not listed as a specific name | Particulates not otherwise regulated- nuisance or inert dusts not listed as a specific name |
| Polymeric ID Coatings | 0.10 max | Particulates not otherwise regulated- nuisance or inert dusts not listed as a specific name | Particulates not otherwise regulated- nuisance or inert dusts not listed as a specific name |

(b) Denotes short term exposure limit (STEL).
(c) Denotes "ceiling limit" which is not to be exceeded at any time.
* Subject to Section EPCRA 313 reporting.
(d) Particulates not otherwise regulated- nuisance or inert dusts not listed as a specific name
(e) Particulates not otherwise specified- nuisance or inert dusts not containing silica or asbestos

## III. PHYSICAL DATA

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| Melting Point | | | | Appearance & Odor: | Bright Metallic<br>No Odor |
|---|---|---|---|---|---|
| Base Material: | 2750° F | Metallic Coating: | 800°-900° F | | |

## IV. FIRE AND EXPLOSION DATA

Steel Products in the Solid State present no fire or explosion hazard.

## V. REACTIVITY DATA

Stable under normal conditions of use, storage, and transport. Will react with strong acid to liberate hydrogen. At temperatures above the melting point of the coating, galvanized pipe may liberate zinc fumes, carbon monoxide, and oxides of nitrogen.

## VI. HEALTH HAZARD DATA

Note: Steel products under normal conditions do not present an inhalation, ingestion, or contact health hazard. However, operations such as burning, welding, sawing, brazing, grinding, and possibly machining, etc, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, may present health hazards.

EFFECTS OF OVEREXPOSURE:

Major Exposure Hazard

| INHALATION | SKIN CONTACT | EYE CONTACT | INGESTION |
|---|---|---|---|
| X | | | |

Chronic inhalation of high concentrations of iron oxide fumes or dusts may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

The inhalation of high concentrations of freshly formed oxide fumes and dusts of Manganese, Copper, Lead and/or Zinc in the respirable particle size range can cause an influenza-like illness termed metal fume fever. Typical symptoms last 12 to 48 hours and are characterized by metallic taste in the mouth, dryness and irritation of the throat, followed by weakness, muscle pain, and chills. No long term effects of metal fume fever have been noted.

EMERGENCY AND FIRST AID PROCEDURES

For overexposure to airborne fumes and particulates, remove exposed person to fresh air. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Seek medical attention promptly.

Treat metal fume fever by bed rest and administer a pain and fever reducing medication.

## VII. SPILL OR LEAK PROCEDURES

Not applicable to steel in the solid state.

## VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY: For welding or burning – NIOSH/MSHA approved dust and fume respirators should be used to avoid excessive inhalation of particulates. Appropriate respirator selection depends on the magnitude of exposure.

SKIN: Protective gloves should be worn as required for welding, burning, or handling operations.

EYE: Use safety glasses or goggles as required for welding, burning or handling operations.

VENTILATION: Local exhaust ventilation should be provided when sawing, grinding or machining to prevent excessive dust or fume exposure. During welding, burning or brazing please follow the ANSI Standard Z49.1 “Safety in Welding and Cutting”.

OTHER PROTECTIVE EQUIPMENT: Depending upon the conditions of use and specific work situations, additional protective equipment and/or clothing may be required to control exposures.

## IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Avoid breathing metal fumes and/or dusts.

OTHER COMMENTS:

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with chronic respiratory disorders (ie asthma, chronic bronchitis, emphysema, etc) may be adversely affected by any fume or airborne particulate matter exposure.

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