PTCAlliance

**Alliance Tubular Products LLC**

# MATERIAL SAFETY DATA SHEET

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

| *MATERIAL* | *REVISION DATE* | *Identification / Rev. Number* |
|---|---|---|
| **Carbon, Low Alloy, or Alloy Steel Tubing or Pipe** | 12/17/14 | PTCA_Rev10 |
| ***MANUFACTURER'S NAME & ADDRESS*** | ***ENVIRONMENTAL, HEALTH, & SAFETY CONTACT PHONE NO.*** | |
| Alliance Tubular Products LLC<br>640 Keystone Street<br>Alliance, Ohio 44601 | 24-HOUR CONTACT: PERS 1.800.633.8253<br>(if dialing from outside US and Canada, dial 1.801.629.0667) | |
| ***CHEMICAL FAMILY*** | ***FORM*** | |
| Metals | Mechanical, structural, cylinder, or redraw tubing or pipe | |

## SECTION 2: COMPOSITION / HAZARDOUS INGREDIENTS

| *MATERIAL OR COMPONENT* | *CAS NUMBER* | *CARBON STEEL (% Wt.)* | *LOW ALLOY STEEL (% Wt.)* | *ALLOY STEEL (% Wt.)* | *APPLICABLE EXPOSURE LIMITS* | |
|---|---|---|---|---|---|---|
| **Base Metal** | | | | | **OSHA PEL[2] (mg/m3)** | **ACGIH TLV[3] (mg/m3)** |
| Iron (Fe) | 7439-89-6 | Balance | Balance | Balance | 10 as $Fe_2O_3$ Fume | 5.0 as $Fe_2O_3$ Fume |
| **Elements** | | | | | | |
| Aluminum (Al)* | 7429-90-5 | 0.1 MAX | 0.1 MAX | 0.1 MAX | 5 as Respirable | 5.0 as Welding Fume |
| Carbon (C) | 7440-44-0 | 0.45 MAX | 0.45 MAX | 1.2 MAX | None Listed | None Listed |
| Chromium (Cr)* | 7440-47-3 | 0.2 MAX | 0.5 – 1.6 | 20.0 MAX | 1.0 as Chrome | 0.5 as Chrome |
| Copper (Cu)* | 7440-50-8 | 0.35 MAX | 0.6 MAX | 0.65 MAX | 0.2 as Copper | 1.0 as Dust |
| Manganese (Mn)* | 7439-96-5 | 0.2 -1.7 | 0.2 – 1.7 | 0.2 -1.7 | 5 as Manganese (C) | 5 as Dust; 1 as Fume 3 (C) |
| Molybdenum (Mo) | 7439-98-7 | 0.1 MAX | 0.65 MAX | 3.5 MAX | 15 as Insoluble Compd. | 10 as Insoluble Compd. |
| Nickel (Ni)* | 7440-02-0 | 0.25 MAX | 0.7 MAX | 14.0 MAX | 1.0 as Nickel | 1.0 as Nickel |
| Phosphorous (P)* | 7723-14-0 | 0.035 MAX | 0.04 MAX | 0.04 MAX | 0.1 as Phosphorous | 0.1 as Phosphorous |
| Silicon (Si) | 7440-21-3 | 1.0 MAX | 1.0 MAX | 1.0 MAX | 5 as Respirable | 10 as Total Dust |
| Sulfur (S) | 7446-09-5 | 0.05 MAX | 0.5 MAX | 0.05 MAX | 5.0 as Sulfur Dioxide | 5.2 as Sulfur Dioxide |
| Tin (Sn) | 7440-31-5 | 0.03 MAX | 0.03 MAX | 0.03 MAX | 2.0 as Tin | 2.0 as Tin |
| Vanadium (V) | 1-314-62-1 | 0.15 MAX | 0.15 MAX | 0.25 MAX | 0.5 as Dust; 0.1 Fume (C) | 0.05 as Dust and Fume |

NOTES: (1) The above listing is a summary of elements commonly found in applicable steel grades. Various grades of steel may contain different combinations of these elements. Other trace elements, in minute quantities, may also be present.

(2) OSHA Permissible Exposure Limits (PELs) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted.

(3) Threshold Limit Values (TLVs) established by the American Conference of Governmental Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded during any time during the workday.

(4) * - SARA Title III Section 313 Chemical (See Section 15)

(5) Optional – Light surface coating of rust preventative or UV-cured copolymer may be used. MSDS available upon request. Use gloves when handling to prevent skin irritation. Use adequate ventilation and / or appropriate personal protection when fumes or dust are generated.

## SECTION 3: PHYSICAL DATA

| *PHYSICAL STATE* | *APPEARANCE AND ODOR* |
|---|---|
| Solid (at standard conditions) | Gray – Black & Odorless |

***OTHER PHYSICAL DATA***

| | | |
|---|---|---|
| Boiling Point: NA<br>Vapor Pressure: NA<br>Solubility in $H_2O$: Insoluble | Specific Gravity: 7.5 to 8<br>% Volatile by Vol.: NA<br>Evaporation Rate: NA | pH: NA<br>Melting Point: 2400 – 2800 °F |

## SECTION 4: FIRE & EXPOSION DATA

| *FIRE AND EXPLOSION* | | | |
|---|---|---|---|
| **Flash Point (ºF)** | **Auto Ignition Temperature (ºF)** | **Flammable Limits in Air (%)** | **Extinguishing Media** |
| NA | NA | Lower: NA<br>Upper: NA | NA |
| **Fire and Explosion Hazards** | | **Extinguishing Media Not to be Used** | |
| NONE | | NA | |
| Note: Steel products in the solid state do not present a fire or explosion hazard. However, particulate generated during processing may present a dust explosion hazard. | | | |

## SECTION 5: REACTIVITY

| *REACTIVITY* | |
|---|---|
| **Stability** | **Incompatibility (Materials to Avoid)** |
| ☒ Stable ☐ Unstable | Reacts with strong acids to form hydrogen gas |
| **Conditions to Avoid** | |
| Non- ventilated areas when cutting, welding, burning, or brazing; avoid generation of airborne dusts and fumes. | |
| **Hazardous Decomposition Products** | |
| Metallic oxides | |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

| *SPILL OR LEAK PROCEDURES* |
|---|
| Special Precautions: Use good housekeeping practices to prevent accumulation of dust and to keep airborne dust to a minimum. No CERCLA RQ specified for the product as a whole. |

## SECTION 7: PERSONAL PROTECTIVE EQUIPMENT

| *RESPIRATORY PROTECTION* | *PROTECTIVE CLOTHING* |
|---|---|
| NIOSH Approved dust/mist/fume respirator should be used during welding or burning if OSHA PEL or TLV is exceeded. | Use appropriate protective clothing such as welder's aprons & gloves when welding or burning. Depending on use, check local, state, and federal codes. |
| *EYES AND FACE* | *VENTILATION* |
| Safety glasses should always be worn when grinding or cutting; face shields should be worn when welding or burning. | As per welding requirements. Depending on use, check local, state, and federal codes. |

## SECTION 8: EMERGENCY MEDICAL PROCEDURES

| *INHALATION* | *SKIN CONTACT* |
|---|---|
| Remove to fresh air, if condition continues, consult physician. | If irritation develops, remove clothing and wash well with soap and water. If condition persists, seek medical attention. |
| *EYE CONTACT* | *INGESTION* |
| Immediately flush well with running water to remove particulate; seek medical attention. | If significant amounts of metal are ingested, seek medical attention. |

## SECTION 9: HEALTH/SAFETY INFORMATION

***HEALTH***

- **General:** Steel products in the natural state do not present an inhalation, ingestion, or contact health hazard. However, operations such as welding, burning, sawing, brazing, grinding, and possibly machining, which results in elevating the temperature of the product to or above its melting point or results in the generation of airborne particulates may present hazards. The above operations should be preformed in well-ventilated areas.
- **Occupational Exposure Limits:** Refer to Section 1.
- **Major Exposure Hazard:** Inhalation
- **Overexposure Effects**:

**1. Acute**: Excessive inhalation of metallic fumes and dusts may result in irritation of eyes, nose, and throat. High concentrations of oxide fumes and may result in metal fume fever. Typical symptoms consist of a metallic

taste in the mouth, dryness and irritation of the throat, chill and fever and usually last from 12 to 48 hours.

2. **Chronic**: Chronic and prolonged inhalation of high concentrations of fumes or dust of the following elements may lead to:

- Iron (iron oxide) – Pulmonary effects, siderosis
- Manganese – bronchitis, pneumonitis, effect on central nervous system
- Chromium – Various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract and possibly cancer of nasal passages and lungs. Based on available information, there does not appear to be evidence that exposure to welding fume induce human cancer.
- Nickel - Same as chromium
- Copper - Pulmonary effects
- Molybdenum – Pain in joints hands knees and feet.
- Aluminum – May initiate fibrotic changes to lung tissue
- Phosphorous – Necrosis of the mandible
- Sulfur – Edema of the lungs
- Tin – Cumulative systemic toxicity, central nervous system effects

CARCINOGENICITY NOTE: The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP), and OSHA do not list steel products as carcinogens. IARC identifies welding fumes as a Group 2B Carcinogen, a mixture that is possibly carcinogenic to humans.

## SECTION 10: HANDLING & STORAGE

***STORAGE TEMPERATURES***

Stable under standard temperatures & pressures.

***HANDLING / STORAGE PRECAUTIONS:***

Store away from strong oxidizers. Dusts or powders may form explosive mixtures with air. Avoid breathing dusts or fumes.

## SECTION 11: TOXIOLOGICAL PROPERTIES

| ***ACUTE TOXICITY DATA*** | ***$LD_{50}$ (mg/kg) – oral*** |
|---|---|
| Iron (Fe) | No Data |
| Aluminum (Al)* | No Data |
| Carbon (C) | No Data |
| Chromium (Cr)* | No Data |
| Copper (Cu)* | No Data |
| Manganese (Mn)* | 9,000 (rat) |
| Molybdenum (Mo) | No Data |
| Nickel (Ni)* | No Data |
| Phosphorous (P)* | No Data |
| Silicon (Si) | No Data |
| Sulfur (S) | No Data |
| Tin (Sn) | No Data |
| Vanadium (V) | 10 (rat) |

NOTE: No $LD_{50}$ has been established for the mixture as a whole. Source for Acute Toxicity Data Shown Above: NIOSH Chemical Listing and Documentation of Revised IDLH Values.

## SECTION 12: ECOLOGICAL INFORMATION

***ECOTOXICITY***

No data available for the product as a whole. However, individual components of the product have been found to be toxic to the environment. Metal dusts have the potential migrate into soil and groundwater mediums if not managed properly.

***ENVIRONMENTAL FATE***

No data available on the product as a whole.

***ENVIRONMENTAL DEGRADATION***

No data available on the product as a whole.

## SECTION 13: DISPOSAL / RECYCLING CONSIDERATIONS

***WASTE MANAGEMENT METHODS***

Product should be recycled whenever possible, in accordance with federal, state, and local regulations. Steel scrap, when recycled, is not regulated as a hazardous or solid waste under RCRA (40 CFR 261). If product dusts and/or fumes from processing operations are not recycled, they are considered to be a solid waste and may be classified as a hazardous waste depending on the toxicity characteristics of the dust as defined within 40 CFR 261.24.

## SECTION 14: TRANSPORT INFORMATION

***USDOT INFORMATION***

This product is not listed as a USDOT Hazardous Material as defined within 49 CFR 172.101. However, ensure that material loads are prepared and secured in accordance with all applicable USDOT Regulations.

## SECTION 15: REGULATORY INFORMATION

***OSHA REGULATIONS***

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A: The product as a whole is not listed. However, individual components of the product are listed.

***ENVIRONMENTAL REGULATIONS***

- RCRA (40 CFR 261): Steel scrap, when recycled, is not regulated as a hazardous or solid waste under RCRA. If product dusts and/or fumes from processing operations are not recycled, they are considered to be a solid waste and may be classified as a hazardous waste depending on the toxicity characteristics of the dust as defined within 40 CFR 261.24.
- CERCLA (40 CFR 302.4): No CERCLA RQ specified for the product as a whole.
- SARA 313 (40 CFR 372.65): Potential SARA Title III Section 313 Chemicals are denoted by an asterisk (*) in Section I. Please note that if you prepackage or redistribute this product to industrial customers, SARA 313 may require a notice be sent to these customers.

NOTE: Information listed above is intended for use as guidance only and should not be solely relied upon for all regulatory compliance obligations / responsibilities. Neither state nor foreign regulations are addressed within the information listed above.

## SECTION 16: ADDITIONAL INFORMATION

***MATERIAL CERTIFICATION***

- European Union Directive 3011/65/EC, Restriction of Hazardous Substances (RoHS)
- European Union Directive 2000/53/EC, End-of-Life Vehicles (ELV)
- GADSL 2013 V 1.0, no declarable substances within supplied components at vehicle point-of-sale
- Free of mercury contamination and / or mercury compounds*****

***DISCLAIMER***

*This Material Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard (29 CFR 1910.1200). The information in the MSDS was obtained from sources that we believe are reliable, but are beyond our direct supervision or control. We make NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, with respect to such information, and we assume no liability resulting from its use. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or, disposal of the product. It is the obligation of each user of this product to determine the suitability of this product and comply with the requirements of all applicable laws regarding use and disposal of this product.*