



# United States Steel Corporation

## Material Safety Data Sheet

USS Code Number: 3C012

Original Issue Date: 9/1/85

Revised: 01/01/02

### Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Galvanized (Hot Dipped) Sheet – Carbon Steel;  
Galvannealed (Hot Dipped) Sheet – Carbon Steel;  
ACRYZINC® Sheet – Carbon Steel

**Manufacturer:** United States Steel Corporation, P.O. Box 206, Pittsburgh, PA 15230-0206

**General Information:** (412) 433-6840 (8:00 am to 5:00 pm); FAX: (412) 433-6601

**Off-Hour Emergency Phone Number:** (412) 433-5811

### Section 2 - Composition / Information on Ingredients

| Ingredient Name           | CAS Number | Percentage by wt. | OSHA PEL <sup>1</sup>  | ACGIH TLV <sup>2</sup>  |
|---------------------------|------------|-------------------|--|---|
| <b>Base Metal</b>         |            |                   |  |   |
| Iron                      | 7439-89-6  | >90.0             | 10 mg/m <sup>3</sup> - Iron oxide fume   | 5 mg/m <sup>3</sup> - Iron oxide dust and fume  |
| <b>Alloying Elements</b>  |            |                   |  |   |
| Calcium                   | 7440-70-2  | 0.10 max.         | 5 mg/m <sup>3</sup> - Calcium oxide  | 2 mg/m <sup>3</sup> - Calcium oxide   |
| Carbon                    | 7440-44-0  | 0.60 max.         | 15 mg/m <sup>3</sup> - Total dust (PNOR) <sup>3</sup><br>5 mg/m <sup>3</sup> - Respirable fraction (PNOR)    | 10 mg/m <sup>3</sup> - Inhalable fraction <sup>4</sup> (PNOS) <sup>5</sup><br>3 mg/m <sup>3</sup> - Respirable fraction <sup>6</sup> (PNOS) |
| Copper                    | 7440-50-8  | 0.50 max.         | 0.1 mg/m <sup>3</sup> - Fume (as Cu)<br>1 mg/m <sup>3</sup> - Dusts & mists (as Cu)                          | 0.2 mg/m <sup>3</sup> - Fume<br>1 mg/m <sup>3</sup> - Dusts & mists (as Cu)   |
| Manganese                 | 7439-96-5  | 1.50 max.         | 5 mg/m <sup>3</sup> (C) - Fume & Mn compounds  | 0.2 mg/m <sup>3</sup>   |
| Phosphorus                | 8049-19-2  | 0.15 max.         | 15 mg/m <sup>3</sup> - Total dust (PNOR)<br>5 mg/m <sup>3</sup> - Respirable fraction (PNOR)                 | 10 mg/m <sup>3</sup> - Inhalable fraction (PNOS)<br>3 mg/m <sup>3</sup> - Respirable fraction (PNOS)  |
| Silicon                   | 7440-21-3  | 0.60 max.         | 15 mg/m <sup>3</sup> - Total dust<br>5 mg/m <sup>3</sup> - Respirable fraction                               | 10 mg/m <sup>3</sup>  |
| Sulfur                    | 7704-34-9  | 0.04 max.         | 15 mg/m <sup>3</sup> - Total dust (PNOR)<br>5 mg/m <sup>3</sup> - Respirable fraction (PNOR)                 | 10 mg/m <sup>3</sup> - Inhalable fraction (PNOS)<br>3 mg/m <sup>3</sup> - Respirable fraction (PNOS)  |
| <b>Metallic Coating</b> * |            |                   |  |   |
| Aluminum                  | 7429-90-5  | 0.055 max.        | 15 mg/m <sup>3</sup> - Total dust<br>5 mg/m <sup>3</sup> - Respirable fraction                               | 10 mg/m <sup>3</sup> - Metal Dust<br>5 mg/m <sup>3</sup> - Welding fume   |
| Antimony                  | 7440-36-0  | 0.011 max.        | 0.5 mg/m <sup>3</sup>  | 0.5 mg/m <sup>3</sup>   |
| Iron                      | 7439-89-6  | 0.8 max.          | 10 mg/m <sup>3</sup> - Iron oxide fume   | 5 mg/m <sup>3</sup> - Iron oxide dust and fume  |
| Lead                      | 7439-92-1  | 0.004 max.        | 0.05 mg/m <sup>3</sup> <sup>7</sup>  | 0.05 mg/m <sup>3</sup>  |
| Zinc                      | 7440-66-6  | 0.15-9.1          | 5 mg/m <sup>3</sup> - Fume<br>15 mg/m <sup>3</sup> - Total dust<br>5 mg/m <sup>3</sup> - Respirable fraction | 5 mg/m <sup>3</sup> - Fume<br>10 mg/m <sup>3</sup> - Fume (STEL)<br>10 mg/m <sup>3</sup> - Dust   |

**Notes:**

- \* Percent weight of metallic coating is a percent of the total product.
- Galvanized sheet surfaces may be chemically treated, generally at the customer's specification, with trace amounts of chromate solution (approximately 1 to 2 mg/ft<sup>2</sup> per side or <0.002% of total product weight) to prevent humid storage stain, and/or phosphate solution (<300 mg/ft<sup>2</sup> or <0.3%) to enhance paint adherence and formability. Surface may also be treated with small amounts (<0.05%) of corrosion-inhibiting oil.
- ACRYZINC® product has a thin clear resin film (approximately 100 mg/ft<sup>2</sup> per side) over the galvanized coating. This film consists of a water-insoluble acrylic polymer/chromium matrix in approximately a 100/1 ratio. The composition of the acrylic coating, as a percentage of the total product weight, is <0.1% polymers and <0.001% chromium.