

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

- 1.1 **Product identifier:** Tool Steel MIG wires and TIG Rods
1.1.1 **Product name and SDS identifier:** Eureka : BU, 130, Color Mold, P-20, 45, 31, 72, 74, Marweld 250, 350, 1216 and 1216
1.2 **Relevant identified uses:** For gas metal arc welding
1.3 **Producer:** Eureka Welding Alloys
2000 E. Avis Dr.
Madison Heights, Michigan, 48045 USA
1.4 **Emergency telephone number** 1-800-962-8560
1.5 **E-mail** rkamen@eurekaweldingalloys.com

2. HAZARDS IDENTIFICATION

- 2.1 **Classification of the mixture:** This product is solid in form and normally not considered hazardous as Shipped. Its appearance is shiny to dull metallic.
2.1.1 **Classification in accordance with Directive 1999/45/EC:** Mixture is not classified
2.1.2 **Classification in accordance with Regulation (EC) No 1272/2008:** Mixture is not classified
2.1.3 **Additional information:**
Further R-phrases and H-phrases see section 16.
2.1.4 **Label elements: Labeling in accordance with Regulation (EC) No 1272/2008**
Pictograms:



Signal words: Health Hazard



Irritant

Hazard statements:

- H317** May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements:

- P202** Do not handle until all safety precautions have been read and understood.
P260 Do not breathe vapors.
P270 Do not eat, drink or smoke when using this product.
P281 Use personal protective equipment as required.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2. HAZARDS IDENTIFICATION CONTINUED

2.2 Other Hazards: Avoid eye contact or inhalation of dust from the product.

Skin contact is normally not hazardous but should be avoided to prevent possible allergic reaction. When this product is used in a welding process the most significant hazards are electric shock, fumes, gases, radiation, spatter, slag and heat.

Shock: Electric shock can kill.

Fumes: Overexposure to welding fumes may result in symptoms like dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function.

Gases: Gases may cause gas poisoning.

Radiation: Arc rays can severely damage eyes or skin.

Spatter, slag and heat: Spatter and slag can damage eyes. Spatter, slag, melting metal, arc rays and hot welds can cause burn injuries and start fires.

3. COMPOSTION /INFORMATION on INGREDIENTS

| Name | CAS Number | EINECS NUMBER | Reach Registratio n Number | IARC ¹ | Classification According to 67/548/EEC | NTP ² | Percent Weight |
|------------|------------|---------------|----------------------------|-------------------|--|------------------|----------------|
| Nickel | 7440-02-0 | 231-111-4 | N/A | 2B | Carc. Cat3 T; R40 R43 R48/23 R52/53 | N/A | 0-19 |
| Silicon | 7440-21-3 | 231-130-8 | N/A | N/A | N/A | N/A | 0-5 |
| Iron | 7439-89-6 | 231-176-9 | 01-211946283 8-24 | N/A | N/A | N/A | 75-98 |
| Titanium | 7440-67-7 | 231-176-9 | N/A | N/A | N/A | N/A | 0-1 |
| Manganese | 7439-96-5 | 231-105-1 | N/A | N/A | N/A | N/A | 0-2 |
| Carbon | 7440-44-0 | 231-153-3 | N/A | N/A | N/A | N/A | 0-2 |
| Tungsten | 7440-33-7 | 231-143-9 | N/A | N/A | N/A | N/A | 0-9 |
| Vanadium | 7440-62-2 | 231-171-1 | N/A | N/A | N/A | N/A | 0-5 |
| Molybdenum | 7439-98-7 | 231-107-2 | N/A | N/A | N/A | N/A | 0-9 |
| Chromium | 7440-47-3 | 231-157-5 | N/A | N/A | N/A | N/A | 0-20 |
| Cobalt | 7440-47-3 | 231-157-5 | N/A | 2B | R42/43 R53 | N/A | 0-10 |

4. FIRST AID MEASURES

4.1 Inhalation: If breathing has stopped, perform artificial respiration and obtain medical assistance immediately.

If breathing is difficult, provide fresh air and call physician.

Eye contact: For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.

Skin contact: For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water.

Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.

General: Move to fresh air and call for medical aid.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media:

Suitable extinguishing media: Carbon dioxide, dry chemical, water spray. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: No data available.

5.2 Special hazards arising from the substance or mixture: Fire may produce irritating or poisonous gases.

5.3 Advice for firefighters: In the event of a fire, wear self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

The product is solid: Wear appropriate personal protective equipment as specified in

6.2 Environmental precautions: Do not allow it in ground soil, surface water, or sewers.

6.3 Reference to other sections: See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling: Handle with care to avoid injury. Avoid breathing fumes and or gasses.

See Section 8 for information on personal protection equipment.

7.2 Conditions for safe storage, including any incompatibilities: Keep in dry safe place.

7.3. Specific end use(s): This product is used for welding.

8.1 EXPOSURE CONTROLS/ PERSONAL PROTECTION

| NAME | CAS NUMBER | EINECS NUMBER | OSHA PEL (mg/m ³) | ACGIH TLV (mg/m ³) |
|---|---------------------------|---------------|--|---|
| Carbon | 1333-86-4 Carbon Black | 231-153-3 | 3.5 TWA (as carbon black) | 3.5 TWA (as carbon black) |
| Chromium | 7440-47-3 | 231-157-5 | 1 TWA (Metal) 0.5 (Cr II & Cr III Comp) 0.005 (Cr VI Comp) | 0.5 TWA (Metal) 0.5 (Cr III Comp) 0.05 (Cr VI Sol Comp) 0.01 (Cr VI Insol Comp) |
| Cobalt | 7440-48-4 | 231-157-5 | 0.02TWA (metal, dust, and fume) as Co | 0.02 TWA (metal, dust, and fume) as Co |
| Iron | 7439-89-6 | 231-096-4 | 5 TWA (resp fraction) | 5 TWA (resp fraction) |
| Manganese | 7439-96-5 | 231-105-1 | 0.2 TWA (fume) | 0.02 (fume resp) 0.1 (fume IHL) (for elemental and inorganic compounds) |
| Molybdenum | 7439-98-7 | 231-107-2 | .5 TWA (soluble comp) 10 TWA (insoluble comp dust) 3 TWA (insoluble comp resp) | 0.5 TWA (soluble comp resp) 10 TWA (insoluble comp IHL) 3 TWA (insoluble comp resp) |
| Nickel, metal and insoluble compounds (as Ni) | 7440-02-0 | 231-111-4 | 0.5TWA (Metal) 0.1 TWA (insoluble comp) | 1.5 TWA (elemental IHL) .2 TWA (insoluble inorganic comp IHL) |
| Silicon | 7440-21-3 | 231-130-8 | 0.1 TWA (resp fraction) 0.3 TWA (total dust) | 10 TWA (total dust) |
| Titanium | 7440-67-7 | 231-176-9 | 5 TWA (resp fraction) | 3 TWA (resp fraction) |
| Tungsten | 7440-37-7 | 231-143-9 | 5 TWA (insoluble comp.) 1 TWA (soluble comp.) | 5 TWA (insoluble comp) 1 TWA (soluble comp) |
| Vanadium | 7440-62-2 | 231-171-1 | 0.5 TWA (resp dust as V2O5) 0.1 TWA (fume as V2O5) | 0.05 TWA (IHL) Vanadium pentoxide as V |

TWA = Time weighted Average in 8hr work day 40 hr. week

IHL = Inhalable

comp= compound

resp = respirable

8.2 EXPOSURE CONTROLS

- 8.2.1 Appropriate engineering controls:** Assure that work environment and processes are within the permissible exposure limits.
- 8.2.2.1 Eye and face protection:** Always wear face and eye protection during welding with appropriate helmet or face shield with filter lens.
- 8.2.2.2 Skin protection:**
Hand protection: Wear welding gloves such as leather.
Other skin protection: Cover and protect all skin from arc rays, sparks and spatters with appropriate welding garments and boots.
- 8.2.2.3 Respiratory protection:** Use approved NIOSH respiratory protection as to not exceed exposure levels in Section 8.
- 8.2.2.4 Thermal hazards:** N/A
- 8.2.3 Environmental exposure controls:** Do not allow to enter sewers, surface water or ground water.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

- Appearance:** solid or cored (metal wire or rod) silver-blue
- Odor:** N/A
- Odor threshold:** N/A
- PH:** N/A
- Melting point/freezing point:** - Melts above 2300f-1260c
- Initial boiling point and boiling range:** N/A
- Flash point:** N/A
- Evaporation rate:** N/A
- Flammability (solid, gas):** N/A
- Upper/lower flammability or explosive limits:** N/A
- Vapor pressure:** N/A
- Vapor density:** N/A
- Relative density:** 8 gm/cc
- Solubility(ies):** N/A
- Partition coefficient: n-octanol/water:** N/A
- Auto-ignition temperature:** N/A
- Decomposition temperature:** N/A
- Viscosity:** N/A
- Explosive properties:** N/A
- Oxidizing properties:** N/A
- 9.2 Other information:** N/A

10. STABILITY AND REACTIVITY

10.1 Reactivity: N/A

10.2 Chemical stability: It is stable under normal conditions. It produces dangerous fumes and gases during welding.

10.3 Possibility of hazardous reactions: N/A

10.4 Conditions to avoid: Avoid contact with incompatible materials.

10.5 Incompatible materials: Acids, bases, oxidizing agents.

10.6 Hazardous decomposition products: Metal oxide fumes and gases are produced during welding.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The mixture may cause an allergic skin reaction. It is suspected of causing cancer. It causes damage to organs through prolonged or repeated exposure.

11.12 Short-term effects from over-exposure to airborne welding fumes can include irritation of the eyes, nose and throat; coughing; shortness of breath; bronchitis; increased infections of the respiratory tract; fluid in the lungs (pulmonary edema); and a flu-like illness known as metal fume fever. Below is the toxicological information on individual substances within the mixture.

Aluminum Oxide Irritation of the respiratory system.

Calcium Oxide Dust or fumes may cause irritation of the respiratory system, skin and eyes.

Chromium Inhalation of fume with chromium (VI) compounds can cause irritation of the respiratory tract, lung damage and asthma-like symptoms. Swallowing chromium (VI) salts can cause severe injury or death. Dust on skin can form ulcers. Eyes may be burned by chromium (VI) compounds. Allergic reactions may occur in some people. The LC50 is in excess of 5.41 mg/L for inhalation.

Cobalt Pulmonary irritation, cough, dermatitis, weight loss.

Fluorides Fluoride compounds evolved may cause skin and eye burns, pulmonary edema and bronchitis.

Iron and Iron Oxide None are known. Treat as nuisance dust or fume.

Manganese Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of the throat and aching of body. Recovery is generally complete within 48 hours of the overexposure.

Mica Dust may cause irritation of the respiratory system, skin and eyes.

Molybdenum Irritation of the eyes, nose and throat.

Nickel and Nickel Compounds Metallic taste, nausea, tightness in chest, metal fume fever, allergic reaction.

Potassium Oxide Dust or fumes may cause irritation of the respiratory system, skin and eyes.

Silica (Amorphous) Dust and fumes may cause irritation of the respiratory system, skin and eyes.

Sodium Oxide Dust or fumes may cause irritation of the respiratory system, skin and eyes.

Titanium Dioxide Irritation of respiratory system.

Silicate Binders (Silica (Amorphous)) - Dust and fumes may cause irritation of the respiratory system, skin and eyes

11.13 Long term effects from over-exposure

Aluminum Oxide Pulmonary fibrosis and emphysema.

Calcium Oxide Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia.

Cobalt Repeated overexposure to cobalt compounds can produce reduced pulmonary function, diffuse nodular fibrosis of lungs and respiratory hypersensitivity.

Chromium Ulceration and perforation of nasal septum. Respiratory irritation may occur with symptoms resembling asthma. Studies have shown that chromate production workers exposed to hexavalent chromium compounds have an excess of lung cancers. Chromium (VI) compounds are more readily absorbed through the skin than chromium (III) compounds. Good practice requires the reduction of employee exposure to chromium (III) and (VI) compounds

Fluorides Serious bone erosion (Osteoporosis) and mottling of teeth.

Iron and Iron Oxide Fumes Can cause siderosis (deposits of iron in lungs) which some researchers believe may affect pulmonary function. Lungs will clear in time when exposure to iron and its compounds ceases. Iron and

Manganese Long-term overexposure to manganese compounds may affect the central nervous system. Symptoms may be similar to Parkinson's disease and can include slowness, changes in handwriting, gait impairment, muscle spasms and cramps and less commonly, tremor and behavioral changes. Employees who are overexposed to manganese compounds should be seen by a physician for early detection of neurologic problems. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait.

Mica Prolonged overexposure may cause scarring of the lungs and pneumoconiosis characterized by cough, shortness of breath, weakness and weight loss.

Molybdenum Prolonged overexposure may result in loss of appetite, weight loss, loss of muscle coordination, difficulty in breathing and anemia.

Nickel and Nickel Compounds Lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated a higher incidence of lung and nasal cancers.

Potassium Oxide Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia.

Silica (Amorphous) Research indicates that silica is present in welding fume in the amorphous form. Long term overexposure may cause pneumoconiosis. Non crystalline forms of silica (amorphous silica) are considered to have little fibrotic potential.

Sodium Oxide Prolonged overexposure may cause ulceration of the skin and perforation of the nasal septum, dermatitis and pneumonia

Titanium Dioxide Pulmonary irritation and slight fibrosis.

Silicate Binders Research indicates that silica is present in welding fume in the amorphous form. Long term overexposure may cause pneumoconiosis. Non crystalline forms of silica (amorphous silica) are considered to have little fibrotic potential. **LONG-TERM**

(CHRONIC) OVEREXPOSURE EFFECTS: Welding Fumes - Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis or "siderosis."

CARCINOGENICITY: Chromium VI compounds, nickel compounds and silica (crystalline quartz) are classified as IARC Group 1 and NTP Group K carcinogens. Titanium dioxide compounds are classified as IARC Group 2B carcinogens. Chromium VI compounds, nickel compounds, silica

11.13 Long term effects from over-exposure continued:

(crystalline quartz) and welding fumes must be considered as carcinogens under OSHA (29 CFR 1910.1200).

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Welding produces fumes into the environment.

12.2 Persistence and degradability: Welding products can degrade, keep from soil and ground water

12.3 Bio accumulative potential: N/A

12.4 Mobility in soil: Not mobile.

12.5 Results of PBT and vPvB assessment PBT: *Not considered as a PBT or vPvB.*

12.6 Other adverse effects: N/A

13. Disposal considerations

13.1 Waste treatment methods Recommendation Recycle if possible or dispose according to local regulations.

14. Transport information

14.1 UN Number: N/A

14.2 UN proper shipping name: N/A

14.3 Transport hazard class(es): N/A

14.4 Packing group: N/A

14.5 Environmental hazards: N/A

14.6 Special precautions for user: N/A

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: N/A

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Text on Warning label is as Follows:

WARNING: PROTECT yourself and others. Read and understand this information.

FUMES AND GASES can be hazardous to your health.

ARC RAYS can injure eyes and burn skin.

ELECTRIC SHOCK can KILL.

Noise can damage ears.

Before use, read and understand the manufacturer's instructions, Safety Data Sheets (SDSs), and your employer's safety practices.

Keep your head out of the fumes.

Use adequate ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

Do not touch electrical parts.

Wear correct eye, ear, and body protection.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture continued:

American National Standard (ANSI) Z49.1 "Safety in Welding and Cutting"
Safety in Welding, Cutting and Allied Processes, published by the American Welding Society,
550 N.W. Lejeune Rd. Miami, Florida 3126
OSHA Safety and Health Standards, available from the U.S. Government Printing Office,
Superintendent of Documents, P.O. Box 371954, Pittsburg, Pa 15250-7954

Canada: WHMIS classification: Class D; Division 2, Subdivision A

Canadian Environmental Protection Act (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

USA: Under the OSHA Hazard Communication Standard, these products are considered hazardous.

These products contain or produce a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

United States EPA Toxic Substance Control Act: All constituents of these products are on the TSCA inventory list or are excluded from listing. Pennsylvania Worker and Community Right to Know: Aluminum, Chromium, and Vanadium (fume or dust) are designated environmental hazards on the Hazardous Substance List. Title 34, Part XIII, Chapter 323.

CERCLA: Hazardous Substance (40 CFR 302.4): Chromium, Copper, Nickel

Sara Section 311 and 312 Hazard Class: Immediate health hazard, delayed health hazard

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture continued:

SARA Title III 313 Toxic Chemicals: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potential subject to annual SARA 313 reporting. See Section 3 for weight percent. Manganese, Chromium, Copper, and Nickel.

EUROPEAN COMMUNITY: All components of this product are listed on ECHOIN, the European Core Inventory.

15.2 Chemical safety assessment: N/A

16. Other information

American National Standard (ANSI) Z49.1 "Safety in Welding and Cutting"
Safety in Welding, Cutting and Allied Processes, published by the American Welding Society
ANSI/American Welding Society (AWS) F1.5 "Methods for sampling and analyzing gases from welding and allied processes" AWSF3.3.2M/F3.2 ventilation guide for weld fume.
WMA Publication 236 and 237, "Hazards from Welding Fume".
CSA Standard CAN-CSA-W117.2-01 "Safety in Welding Cutting and Allied Processes"

Relevant phrases

H301 Toxic if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

Safety Data Sheet
Product Names: Eureka Tool Steel MIG Wires
and TIG Rods: BU, 130, Color Mold, P-20 45,
31, 72, 74, Marweld 250, 350, 1215, 1216,

Eureka Welding Alloys
Revised: March 24, 2015
Revision 1

Relevant phrases

R36/38 Irritating to eyes and skin.

R40 Limited evidence of a carcinogenic effect.

R43 May cause sensitization by skin contact.

R48 Danger of serious damage to health by prolonged exposure.

R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.

List of Acronyms and Abbreviations

| | |
|-----------|---|
| Carc | Carcinogenic |
| vPvB | Very Persistent and Very Bioaccumulative |
| (STOT) RE | Repeated Exposure |
| STOT | Specific Target Organ Toxicity |
| N/A | Not Available |
| WA | Time weighted Average in 8hr work day 40 hr. we |
| IHL | Inhalable |
| COMP | Compound |
| Resp | Respirable |
| PBT | Persistent, Bio accumulative and Toxic substance |
| UN | United Nations |
| EU | European Union |
| PEL | Permissible Exposure Level |
| TLV | Threshold Limit Value |
| LC50 | Lethal Concentration to 50 % of a test population |