

MATERIAL SAFETY DATA SHEET

Material Name: **Titanium Alloys**

ID:

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

Chemical Name: **Titanium Alloys**

Product Use:

Manufacturer Information:

OMNISOURCE CORPORATION

1610 North Calhoun Street

Fort Wayne, Indiana 46808

Telephone: (260)422-5541 Safety Department

Emergency #: 800-666-4789

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component	Percent
7440-32-6	Titanium (Ti)	40-99
7439-98-7	Molybdenum (Mo)	0-37
7440-62-2	**Vanadium (V)	0-37
7440-47-3	*Chromium (Cr)	0-18
7440-67-7	Zirconium (Zr)	0-15
7440-03-1	Columbium (Cb)	0-15
7429-90-5	Aluminum (Al)	0-8
7440-31-5	Tin (Sn)	0-8
7440-21-3	Silicon (Si)	0-3

Note: Those elements identified by an * and those elements capable of generating highly toxic fumes or dusts (identified by a **) are classified as toxic by EPA in 40 CFR 372.65 and subject to reporting requirements of SARA Title III Section 313 and 40 CFR 372.

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: Titanium alloys in their solid state present no inhalation, ingestion or contact health hazard. However, inhaling dusts, fumes or mists which may be generated during certain manufacturing procedures (burning, melting, welding, sawing, brazing, grinding, and machining) may be hazardous to your health. Dusts may also be irritating to the unprotected skin or eyes.

ACUTE EFFECTS: Excessive exposure to dusts/fumes may cause irritation of eyes, nose and throat, Inhalation of dusts/fumes may result in metal fumes fever (metallic taste in mouth, dryness and irritation of throat, chills and fever).

CHRONIC EFFECTS: Prolonged inhalation of fumes or dusts may caused a variety of adverse health effects to the respiratory system, including (but not necessarily

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limited to) lesions of the mucous membrane, bronchitis, pneumonia and cancers of the nasal cavity and respiratory tract.

POTENTIAL HEALTH EFFECTS/MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Any preexisting chronic respiratory condition (asthma, chronic bronchitis, emphysema).

ROUTES OF ENTRY: Inhalation (dust/fumes/mists), contact with skin and eyes (dust/mist), ingestion (dusts).

SECTION 4 - FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If condition persists, consult physician.

EYE CONTACT: Immediately flush with running water to remove particulates, consult physician.

SKIN CONTACT: If irritation develops, remove clothing and wash with soap and water. If condition persists, consult physician.

INGESTION: Consult physician.

NOTE TO PHYSICIAN: None.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT: Nonflammable at low temperatures, but will burn at high temperatures.

EXTINGUISHING MEDIA: Do not use water. Use carbon dioxide or dry chemical extinguishing agents.

HAZARDOUS COMBUSTION PRODUCTS: Titanium oxide, Hydrogen gas.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Water applied to hot titanium may evolve hydrogen gas causing an explosion.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: No special procedures needed.

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SPECIALIZED EQUIPMENT: None.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Minimize activities which may generate dusts, mists or fumes. Keep areas well ventilated. Use suitable equipment to move materials.

PRECAUTIONS TO BE TAKEN IN STORAGE: None.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: Wear NIOSH approved dust/mist/fume respirator when welding or burning this metal.

EYE/FACE PROTECTION: Face shields (welding or burning), safety glasses (cutting or grinding).

OTHER PROTECTIVE EQUIPMENT: Use appropriate protective clothing such as welding aprons and gloves when welding or burning.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Metal

ODOR: Odorless

PHYSICAL STATE: Solid

VAPOR PRESSURE: NA

BOLING POINT (C): NA

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY(H2O=1) 4.46-4.54

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: None.

HAZARDOUS DECOMPOSITION PRODUCTS (when heated): Titanium oxides, Hydrogen.

MATERIALS TO AVOID: Acids, oxidizing agents, halogens.

SECTION 11 - TOXICOLOGY INFORMATION

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LETHAL CONCENTRATION (LC50): None established.

REPRODUCTIVE EFFECTS: NA

LETHAL DOSE (LD50): NA

MUTAGENICITY: NA

TERATOGENICITY: NA

CARCINOGENIC BY NTP, IARC OR OSHA: No. (Note: fumes/dusts/mists from this material may be carcinogenic if inhaled over long periods of time).

SECTION 12 - ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

SECTION 13- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Recycle scrap materials through scrap dealers and brokers. Dispose of used non-cyclable materials in accordance with local, state and federal regulations.

SECTION 14 - TRANSPORT INFORMATION

No special DOT regulations pertaining to this material.

SECTION 15 - REGULATORY INFORMATION

SARA: Some components of this product are classified as toxic by the EPA in 40 CFR 372.65 and subject to reporting requirements of SARA Title III § 313 and CFR 372.45.

SECTION 16 - OTHER INFORMATION

OTHER PRECAUTIONS: Take appropriate precautions when moving or shipping this material to prevent injury to personnel handling it.

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