

SAFETY DATA SHEET (SDS)

Revised: June 2018

SECTION 1 – IDENTIFICATION

Trade Name: Vulcan OMC-414 **Manufacturer:** Vulcan Systems, LLC
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SECTION 2 – HAZARDOUS IDENTIFICATION

GHS Hazard Statements: **Hazard Symbol:** No symbol required
Signal Word: No signal word required

Hazards not otherwise classified (HNOC) or not covered by GHS:

WARNING! - Avoid breathing welding fumes and gases, they may be dangerous to your health. Always use adequate ventilation. Always use appropriate personal protective equipment.

PRIMARY ROUTES OF ENTRY: Respiratory System, Eyes and/or Skin. ARC RAYS: The welding arc can injure eyes and burn skin.

ELECTRIC SHOCK: Arc welding and associated processes can kill.
FUMES AND GASES: Can be dangerous to your health.

SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

This information is protected by Trade-Secret

SECTION 4 – FIRST AID PROCEDURES

Do not eat, drink, or smoke while welding. Wash hands thoroughly before performing these activities. If symptoms develop, seek medical attention at once.

INHALATION WHILE WELDING: If breathing is difficult, provide fresh air and contact physician. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.

SKIN CONTACT WHILE WELDING: Remove contaminated clothing and wash the skin thoroughly with soap and water. If symptoms develop, seek medical attention at once.

EYE CONTACT WHILE WELDING: Dust or fume from this product should be flushed from the eyes with clean water until victim is transported to an emergency medical facility. Do not allow victim to rub or keep eyes tightly closed. Obtain medical assistance at once

ARC RAYS: Arc rays can injure eyes. If exposed to arc rays, move victim to dark room, remove contact lenses as necessary for treatment, cover eyes with a padded dressing and rest. Obtain medical assistance if symptoms persist.

SECTION 5 – FIRE-FIGHTING MEASURES

Non-flammable. Welding arc and sparks can ignite combustible and flammable products. Refer to the Canadian standard "Safety in Welding and Cutting and Allied Procedures" for fire prevention and protection information during the use of welding and allied procedure. **Extinguishing Media** – Co2 or Dry Chemical Extinguisher.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

In the case of a release of solid welding consumable products, solid objects can be picked up and placed into a disposal container. If airborne dust and/or fume is present, use adequate engineering controls and, if needed, personal protection to prevent overexposure. Wear proper personal protective equipment while handling. Do not discard into the trash.

SECTION 7 – HANDLING AND STORAGE

Handle with care to avoid cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Some individuals can develop an allergic reaction to certain materials. Retain all warning and product labels. Keep separate from acids and strong bases to prevent possible chemical reactions.

SECTION 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

This section covers the material from which this product is manufactured. The term "hazardous ingredients" should be interpreted as a term required and defined in OSHA hazard communication standard. This product contains toxic chemicals subject to the reporting requirements of section 313 of title III of SARA and CFR part 372.

INGREDIENT	CAS	EINECS	OSHA PEL	ACGIH TLV
ALUMINUM###	7429-90-5	231-072-3	5 R* (Dust), 15	1 R* (A4) 5 (Welding fumes, as Al)
ALUMINUM OXIDE##	1344-28-1	215-691-6	5 R*	1 R* (A4) 10 (as Al, Tot particulate)
ANTIMONY TRIOXIDE	1309-64-4	215-175-0	0.5 (as Sb)	0.5 (as Sb) (A2)
BARIUM CMPDS (as Ba)	7440-39-3	231-149-1	0.5 (as Ba)	0.5 (as Ba) (A4)
BARIUM FLOURIDE#	7787-32-8	232-108-0	0.5 (as Ba)	0.5 (as Ba) (A4)
CALCIUM CARBONATE	1317-65-3	215-279-6	5 R*, 5 (as CaO)	3 R*, 2 (as CaO)
CERIUM OXIDE	1306-38-3	215-150-4	5 R*, 15 (Dust)	3 R*, 10
CHROMIUM#	7440-47-3	231-157-5	1 (Metal) 0.5 (Cr II & Cr III Cpnds)	0.5 (Metal) (A4) 0.5 (Cr III Cpnds) (A4)
			0.005 (Cr VI Cpnds Calif. OSHA PEL)	0.05 (Cr VI Sol Cpnds) (A1) 0.01 (Cr VI Insol Cpnds) (A1)
COBALT (Metal, dust and fume, as Co)	7440-48-4	231-158-0	0.1 (Dust and Fume)	0.02 (A3)
COPPER	7440-50-8	231-159-6	0.1 (Fume), 1 (Dust)	0.2 (Fume), 1 (Dust)
FLUORSPAR	7789-75-5	232-188-7	2.5 (as F)	2.5 (as F) (A4)
IRON+	7439-89-6	231-096-4	5 R*	5 R* (Fe ₂ O ₃) (A4)
IRON OXIDE	1309-37-1	215-168-2	10 (Oxide Fume)	5 R* (Fe ₂ O ₃) (A4)
LITHIUM CARBONATE	554-13-2	209-062-5	5 R*, 15 (Dust)	3 R*, 10 (Dust)
LITHIUM FLUORIDE	7789-24-4	232-152-0	2.5 (as F)	2.5 (as F) (A4)
LITHIUM OXIDE	12057-24-8	235-019-5	1 ■ ■	3 R*, 10 (Dust)
MAGNESIUM+	7439-95-4	231-104-6	5 R*	3 R*
MAGNESIUM OXIDE	1309-48-4	215-171-9	15 (Fume, Total Part)	10 I* (A4)

INGREDIENT	CAS	EINECS	OSHA PEL	ACGIH TLV
MANGANESE#	7439-96-5	231-105-1	5 CL ** (Fume) 1, 3 STEL*** ■	0.1 I* (A4) ◆ 0.02 R* ◆◆
MANGANESE OXIDE	1344-43-0	215-171-9	5 CL ** (Fume) 1, 3 STEL*** ■	0.1 I* (A4) ◆ 0.02 R* ◆◆
MOLYBDENUM	7439-98-7	231-107-2	5 R*	3 R*; 10 I* (Ele and Insol) 0.5 R* (Sol Cpnds) (A3)
NICKEL#	7440-02-0	231-111-4	1 (Metal) 1 (Sol Cpnds) 1 (Insol Cpnds)	1.5 I* (Ele) (A5) 0.1 I* (Sol Cpnds) (A4) 0.2 I* (Insol Cpnds) (A1)
SILICA++ (Amorphous Silica Fume)	14808-60-7 69012-64-2	238-878-4 273-761-1	0.1 R* 0.8	0.025 R* (A2) 3 R*
SILICON+	7440-21-3	231-130-8	5 R*	3 R*
STRONTIUM FLUORIDE	7783-48-4	232-000-3	2.5 (as F)	2.5 (as F) (A4)
TITANIUM+	7440-32-6	231-142-3	5 R*	3 R*
TITANIUM DIOXIDE	13463-67-7	236-675-5	15 (Dust)	10 (A4)
ZINC	7440-66-6	231-175-3	Not established	Not established
ZIRCONIUM	7440-67-7	231-176-9	5 (Zr Cpnds) 5, 10 STEL***■(Zr Cpnds)	5, 10 STEL*** (Zr Cpnds) (A4)

R* - Respirable Fraction I* - Inhalable Fraction ** - Ceiling Limit *** - Short Term Exposure Limit +- As a nuisance particulate covered under "Particulates Not Otherwise Regulated" by OSHA or "Particulates Not Otherwise Specified" by ACGIH +- Crystalline silica is bound within the product as it exists in the package. However, research indicates silica is present in welding fume in the amorphous (noncrystalline) form #- Reportable material under Section 313 of SARA ## - Reportable material under Section 313 of SARA only in fibrous form ### - Reportable material under Section 313 of SARA as dust or fume ■ - NIOSH REL TWA and STEL ■■ - AIHA Ceiling Limit of 1 mg/m³ ◆ - Limit of 0.1 mg/m³ is for Inhalable Mn in 20153 by ACGIH ◆◆ - Limit of 0.02 mg/m³ is for Respirable Mn in 2015 by ACGIH Ele - Element Sol - Soluble Insol - Insoluble Inorg - Inorganic Cpnds - Compounds NOS - Not Otherwise Specified {A1} - Confirmed Human Carcinogen per ACGIH {A2} - Suspected Human Carcinogen per ACGIH {A3} - Confirmed Animal Carcinogen with Unknown Relevance to Humans per ACGIH {A4} - Not Classifiable as a Human Carcinogen per ACGIH {A5} - Not Suspected as a Human Carcinogen per ACGIH (noncrystalline form) EINECS - European Inventory of Existing Commercial Chemical Substance Number OSHA - U.S. Occupational Safety and Health Administration ACGIH - American Conference of Governmental Industrial Hygienists

Welding fumes cannot be classified simply. The composition and quantity of both are dependent on the metal being welded, the process, procedures, and alloys used. Other conditions which also influence the composition and quality of the fumes and gases to which workers may be exposed include coating on the metal being welded (such as paint, plating, or galvanizing), the number of welders, the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, and presence of contaminants in the atmosphere (ie, chlorinated hydrocarbon vapors from cleaning & degreasing activities). When the alloy is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in the alloy. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials in the alloy, plus those from the base metal and coating, etc.

Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below TLVs (threshold limit values) in the workers' breathing zone and the general area. Train the welder to keep his head out of the fumes. Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below the TLV.

Wear helmet or use a face shield with filter lens. Wear hand, head, and body protection, which help to prevent injury from radiation, sparks, and electrical shock. Train the welder not to touch live electrical parts and insulate himself from work and ground.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid	Upper/lower flammability or exposure limits	N/A
Odor	N/A	Vapor Pressure	N/A
Odor threshold	N/A	Vapor density	N/A
pH	N/A	Relative Density	N/A
Melting point/freezing point	N/A	Solubility	N/A
Initial boiling point and boiling range	N/A	Flash point	N/A
Evaporation rate	N/A	Flammability	N/A
Partition coefficient	N/A	Auto-ignition temperature	N/A
Decomposition temperature	N/A	Viscosity	N/A

SECTION 10 – STABILITY AND REACTIVITY

Not Applicable

SECTION 11 – TOXICOLOGICAL INFORMATION

Not Applicable

SECTION 12 – ECOLOGICAL INFORMATION

Not Applicable

SECTION 13 – DISPOSAL CONSIDERATIONS

Not Applicable

SECTION 14 – TRANSPORTATION INFORMATION

Not Applicable

SECTION 15 – REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label and the safety data sheet. Observe all local and federal rules and regulations. Take all necessary precautions to protect yourself and others.

EPCRA/SARA TITLE III 313 TOXIC CHEMICALS: The following metallic components are listed as SARA 313 "Toxic Chemicals" and potentially subject to annual SARA 312 reporting: Aluminum, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium.

SECTION 16 – OTHER INFORMATION

Vulcan Systems, LLC, believes this data to be accurate, but no warranty, expressed or implied, is made.