

SECTION 1 – IDENTIFICATION

Trade Name:	Vulcan 51	Manufacturer:	Vulcan Systems, LLC
Emergency Telephone. No:	(989)739-8050		5740 F-41, Oscoda, MI 48750 info@vulcan-systems.com

SECTION 2 – HAZARDOUS IDENTIFICATION

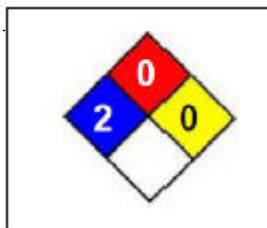
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): No Classification.

GHS Label elements, including precautionary statements: None.

GHS Hazard Pictograms: NFPA CODES: FIRE: 0 HEALTH: 2 REACTIVITY: 0.....

Other Hazards which do not result in GHS classification and Overview:

Electric shock can kill. Wear approved head, hand and body protection, which help to prevent injury from radiation, sparks and electrical shock. Welding arc and sparks can ignite combustibles or flammable materials. This would include wearing welder's gloves and a protective face shield and may include arm protectors, apron, hats, shoulder protection, as well as dark substantial clothing. Welders should be trained not to allow electrically live parts to contract the skin or wet clothing and gloves. The welders should insulate themselves from the work and ground. Arc Rays can injure eyes and burn skin. Read and understand the manufacturer's instructions and precautionary label on this product and your employer's safety practices. As shipped these are odorless, solid rods that are nonflammable, non-explosive, non-reactive and non-hazardous with a metallic luster. Welding fumes and gases cannot be classified simply. The composition and quantity of these fumes and gases are dependent upon the metal being welded, the procedures followed and the electrodes used. Fumes may affect eyes, skin, respiratory system as well as pancreas and liver. Workers should be aware that the composition and quantity of fumes and gases to which they may be exposed, are influenced by: coatings which may be present on the metal being welded (such as paint, plating, or galvanizing), the number of welders in operation and 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, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing procedure). When the alloy is consumed, the fumes and gas decomposition products generated are different in percent and form from the ingredients listed elsewhere in this document. The composition of these fumes and gases are the concerning matter and not the composition of the alloy itself. Decomposition products include those originating from the volatilization, reaction, or oxidation of the ingredients in the alloy, plus those from the base metal, coating and the other factors noted above. Reasonable expected fume constituents of this product would include: Complex oxides or compounds of chromium, magnesium, manganese, silicon, copper, aluminum, titanium, zinc and zirconium may be present. (Other complex oxides may be present when using fluxes).

**SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS**

This information is protected by Trade-Secret

SECTION 4 – FIRST AID PROCEDURES

Ingestion: Avoid contact with metal fume or powers which may lead to ingestion

Inhalation: If breathing has stop or difficult move to fresh air and as needed perform artificial respiration. Call medical assistance or physician.

Skin Contact: Remove any contaminated clothing, gloves or other personnel equipment and promptly wash/flush with mild soap and water. For reddish or blistered skin from thermal/arc radiation promptly wash/flush with water. Get medical assistance or physician help as needed.

Eye Contact: Arc radiation can injure eyes and also cause an arc flash – if this occurs, move to dark room removing lenses as required and get rest and cover eyes with non-stick dressings (padded dressing) Removal of dust and fumes requires flushing with abundant amounts of clean water for at least 15 minutes. Get medical assistance or physician help as needed or if issues persist.

Most important symptoms/effects, acute and delayed:

Symptoms: Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, dryness or irritation of nose, throat, or eyes. Pre-existing respiratory issues may be aggregated. Long-term (chronic) over-exposure to welding fumes can lead to siderosis (iron deposits in lung) and is believed to affect pulmonary function. Manganese and Manganese compounds above safe exposure limits can affect or cause irreversible damage to the central nervous system, including the brain: symptoms may result in impaired speech and movement, lack of energy, stiffness in legs, feet, toes, muscular weakness as well as psychological disturbances. Reports of bronchitis and lung fibrosis have also been noted.

Hazards: Welding fumes and gases cannot be classified simply. Refer to Section II.

SECTION 5 – FIRE-FIGHTING MEASURES

As shipped these are odorless, solid rods with a flux coating that are nonflammable, non-explosive, non-reactive and non-hazardous. Welding arcs and sparks can ignite combustibles or flammable materials Read and understand the manufacturer's instructions and precautionary label on this product and your employer's safety practices

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Not Applicable as product cannot leak or be spilled.

SECTION 7 – HANDLING AND STORAGE

Read and understand manufacturer's instructions and the precautionary label on the product. See American National Standard z249.1 "Safety in Welding and Cutting" published by the American Welding Society. Maintain all exposure below the limits in section 8. Monitor the air to ensure that the levels are below the above mentioned limits. See AWS fl.1 "Methods for Sampling Airborne Particles Generated by Welding and Allied Procedures" and AWS fl.3 "Evaluating Constituents in the Welding Environment: A Sampling Strategy Guide."

Prevent waste from contaminating the surrounding environment, discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, and local regulations.

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.

Ingredients::

Chemical Identity Ingredients	CAS No.	EINECS#
Iron (Fe) (limits as oxide fume)	7439-89-6	231-096-4
Aluminum (Al)	7429-90-5	231-072-3
Silicon (Si)	7440-21-3	231-130-8
Sodium Chloride	7647-14-5	231-598-3
Potassium Oxide	12136-45-7	235-227-6
Lithium Fluoride	7789-24-4	232-152-0
Talc	14807-96-6	238-877-9
Potassium Chloride	7447-40-7	231-211-8

Exposure Limits:

Flux or other ingredients	CAS No.	EINECS#	Exposure Limit (mg/m ³)		
			OSHA PEL	ACGIH TLV	NIOSH REL
Iron (Fe) (limits as oxide fume)	7439-89-6	231-096-4	10	5 (Resp)	5.0
Aluminum (Al) ⁽¹⁾	7429-90-5	231-072-3	15 (total dust) 5 (Resp)	10 (dust) 1 (Resp)	15 (total) 5 (Resp)
Silicon (Si)	7440-21-3	231-130-8	15 (dust) 5 (Resp)	WITHDRAWN	5 (Resp) 10 (TOTAL)
Sodium Chloride	7647-14-5	231-598-3	NA	NA	NA
Potassium Chloride	7447-40-7	231-211-8	NA	NA	NA
Lithium Fluoride	7789-24-4	232-152-0	2.5	2.5	2.5
Potassium Oxide	12136-45-7	235-227-6	10(total particulate) 5 (Resp)	15(total dust) 3 (Resp)	Lowest feasible
Talc	14807-96-6	238-877-9	0.3(total dust) 0.1(Resp)	2 (Resp)	2 (Resp)

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

Not Applicable

SECTION 16 – OTHER INFORMATION

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