

**SECTION 1 – IDENTIFICATION**

**Trade Name:** Vulcan 965-X  
**Emergency Telephone. No:** (989)739-8050

**Manufacturer:** Vulcan Systems, LLC  
 5740 F-41, Oscoda, MI 48750

**SECTION 2 – HAZARDOUS IDENTIFICATION****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**

Health, Skin corrosion/irritation, 1  
 Health, Specific target organ toxicity - Single exposure, 3  
 Health, Carcinogenicity, 1  
 Health, Specific target organ toxicity - Repeated exposure, 2

**GHS Hazard Statements:**

H314 - Causes severe skin burns and eye damage  
 H335 - May cause respiratory irritation  
 H350 - May cause cancer  
 H373 - May cause damage to organs through prolonged or repeated exposure  
 CGA-HG11 - SYMPTOMS MAY BE DELAYED.

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

**Route of Entry:** Eyes; Skin

**Target Organs:** Throat; Nose, Respiratory system

**Inhalation:** Short term overexposure to welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of the nose, throat, lungs, and/or eyes.

**Acute Effects:** Irritating to the nose, throat and respiratory tract.

**Chronic Toxicity:** Chronic overexposure to welding fumes can result in: Chronic respiratory problems, iron build-up in the lungs, bone erosion, reduced pulmonary functions and nervous disorders.

**Eye Contact:** Fumes may be moderately irritating to the eyes. The bright light produced by the arc can damage the eyes.

**GHS Label elements, including precautionary statements:**

GHS Signal Word: **DANGER**

**GHS Hazard Pictograms:****GHS Precautionary Statements:**

P232 - Protect from moisture.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

CGA-PG27 - Read and follow the Safety Data Sheet (SDS) before use.

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

This information is protected by Trade-Secret

**SECTION 4 – FIRST AID PROCEDURES**

If overcome by smoke or fumes, remove the victim to fresh air and call for medical aid. Employ first aid techniques recommended by the Red Cross.

**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**

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 5. Monitor the air to ensure that the levels are below the above mentioned limits. See AWS f1.1 "Methods for Sampling Airborne Particles Generated by Welding and Allied Procedures" and AWS f1.3 "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:**

Cas#	%	Chemical Name
7439-98-7	0.15-4.2%	Molybdenum: soluble and insoluble compounds
1317-65-3	7-16%	Calcium carbonate (limestone)
7789-75-5	3-6%	Calcium fluoride (CaF2)
68476-25-5	0-1%	Feldspar-group minerals
6487-48-5	0-1%	Potassium oxalate monohydrate
9004-34-6	0-1.5%	Cellulose
1302-78-9	0-5%	Bentonite clay
6834-92-0	0-5%	Sodium silicate
1312-76-1	0-5%	Potassium silicate
7439-89-6	68-97%	Iron
13983-17-0	0-1%	Wollastonite
12001-26-2	<0.3%	Mica
7440-48-4	0-9.2%	Cobalt
7429-90-5	<0.3%	Aluminum
1314-62-1	0-0.65%	Vanadium (as V2O5), respirable dust and fume
7440-32-6	0-0.5%	Titanium
13463-67-7	0-1.5%	Titanium dioxide
14040-11-0	0-4%	Tungsten carbonyl (w(CO)6), (OC-6-11)-
16389-88-1	0-6%	Dolomite (CaMg(CO3)2)
1344-09-8	0-1.4%	Sodium Silicate

**Exposure Limits:**

<u>CHEMICAL NAME</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Soluble compounds, as Mo	15 mg/m3	10 mg/m3
Calcium Carbonate (limestone)	15 mg/m3	2 mg/m3
Calcium Fluoride	2.5 mg/m3 As F	2.5 mg/m3
Feldspar	5 mg/m3 TWA	5 mg/m3 TWA
Potassium oxalate monohydrate	NL	NL
Cellulose	10 mg/m3	10 mg/m3
Bentonite clay	5 mg/m3 (Dust)	5 mg/m3
Sodium silicate	NL	NL
Potassium silicate	NL	NL
Wollastonite	NL	NL
Mica	3 mg/m3	3 mg/m3
Cobalt	.01 mg/m3 TWA	.02 mg/m3 TWA
Aluminum	15 mg/m3	10 mg/m3 NL
Vanadium	0.05 mg/m3 TWA	1 mg/m3 TWA
Titanium	10 mg/m3 NL = Not Listed	10 mg/m3
Titanium dioxide	10 mg/m3 NL = Not Listed	10 mg/m3
Tungsten	5 mg/m3 TWA, 10mg/m3 STEL	5 mg/m3 TWA, 10 mg/m3 STEL (inhalable)
Dolomite	NL	NL
Sodium Silicate	NL * NL = Not Listed	NL

Welding fumes cannot be classified simply. The composition and quantity of both are dependent on the metal being welded, the process, procedures, and electrodes 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 electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in the electrode. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials in the electrode, plus those from the base metal and coating, etc.

The international agency for research on cancer (IARC) has indicated that nickel and certain nickel compounds are probably carcinogenic for humans, but that the specified compounds which may be carcinogenic cannot be specified precisely. Chromium has also been listed by IARC because of "sufficient evidence for the carcinogenicity of chromium and certain chromium compounds." The studies forming the basis for the conclusion were from operations different from the production or welding of nickel and chromium alloys. Recent studies of workers melting and working alloys containing nickel/chromium have found increased risk of cancer.

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	N/A
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****Component (CAS#) [%] - CODES**  
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Molybdenum: soluble and insoluble compounds (7439-98-7) [0.15-4.2%] MASS, OSHAWAC, PA, TSCA, TXAIR

Calcium carbonate (limestone) (1317-65-3) [7-16%] MASS, OSHAWAC, PA, TSCA, TXAIR

Calcium fluoride (CaF<sub>2</sub>) (7789-75-5) [3-6%] TSCA

Feldspar-group minerals (68476-25-5) [0-1%] TSCA

Potassium oxalate monohydrate (6487-48-5) [0-1%]

Cellulose (9004-34-6) [0-1.5%] MASS, OSHAWAC, PA, TSCA, TXAIR

Bentonite clay (1302-78-9) [0-5%] TSCA

Sodium silicate (6834-92-0) [0-5%] TSCA

Potassium silicate (1312-76-1) [0-5%] TSCA

Iron (7439-89-6) [68-97%] TSCA

Wollastonite (13983-17-0) [0-1%]

Cobalt (7440-48-4) [0-9.2%] MASS, NJHS, OSHAWAC, PA, PROP65, SARA313, TSCA, TXAIR

Titanium dioxide (13463-67-7) [0-1.5%] MASS, OSHAWAC, PA, TSCA, TXAIR

Tungsten carbonyl (W(CO)<sub>6</sub>), (OC-6-11)- (14040-11-0) [0-4%] TSCADolomite (CaMg(CO<sub>3</sub>)<sub>2</sub>) (16389-88-1) [0-6%] TSCA

Sodium Silicate (1344-09-8) [0-1.4%] TSCA

**Regulatory CODE Descriptions**  
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RQ = Reportable Quantity

MASS = MA Massachusetts Hazardous Substances List

OSHA = OSHA Workplace Air Contaminants

PA = PA Right-To-Know List of Hazardous Substances

TSCA = Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

NJHS = NJ Right-to-Know Hazardous Substances

PROP65 = CA Prop 65

SARA313 = SARA 313 Title III Toxic Chemicals

**SECTION 16 – OTHER INFORMATION**

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