

# MATERIAL SAFETY DATA SHEET

## I. PRODUCT IDENTIFICATION

**Gaylee Corporation**  
6501 Sims Drive  
Sterling Heights, Michigan 48313  
586-977-8007

**Chemical Name:** (Generic) Ferrous or Nonferrous Alloys  
**Trade Name:** HIGH SPEED STEEL CUTTING TOOLS  
Steel Bodies (in Carbide Tipped Cutting Tools)  
**Common Name:** High Speed, Tool & Die, Maraging, Vacuum Melted &  
High Strength Steels  
**Molecular Weight:** N/A  
**Grade Specification:**

**Date:** June 7, 2006

### PRODUCT:

#### **GENERAL COMMENTS:**

We do not consider this product in the form it is sold to constitute a physical or health hazard. Subsequent operations such as heating, cutting or grinding may cause some of the ingredients to change to a form which could affect exposed workers.

Gaylee Corporation does not manufacture or formulate any of the steel used in its products. The information set forth herein has been summarized from MSDS supplied to Gaylee Corporation by its steel suppliers.

No threshold limit values (TLV's) exist for cutting tools. TLV's may be applicable to constituent elements.

Although Gaylee Corporation has attempted to provide current and accurate information herein, Gaylee Corporation makes no representation regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person.

Carcinogenic Assessment (NTP Annual Report, IARC Monographs, other):

None of the components of this material have been identified as known or suspected carcinogens by NTP, IARC or OSHA.

## II. HAZARDOUS INGREDIENTS

The terms "hazardous" and "hazardous materials" as used in this MSDS should be interpreted as defined by, and in accordance with, the OSHA Hazard Communication Standard (29 CFR Part 1910. 1200) including cited Appendices, Lists, References, etc., all of which are hereby incorporated by reference.

<b>MATERIAL</b>	<b>CAS NO.</b>	<b>PEL (mg/m<sup>3</sup>)</b>	<b>TLV (mg/m<sup>3</sup>)</b>
Cobalt	7440-48-4	0.1	0.1
Chromium	7440-47-3	1.0	.50
Iron	1309-37-1	10	5
Manganese	7439-96-5	(Dust) 5 (Ceiling) (Fume) -	5 (Ceiling) 1
Molybdenum	7439-98-7	15	10
Nickel	7440-02-0	1	1
Vanadium	1314-62-1	(Dust) .5 (Ceiling) (Fume) .1 (Ceiling)	.05 .05
Titanium	13463-67-7 15	5	
Carbon	1333-86-4	3.5 5	3.5 (As Carbon Black)
Tungsten	7440-33-7	-	5
Silicon	7440-21-2	(Dust) -	5.0
Aluminum	7429-90	(Dust) - (Fume) -	10 5

\*Components determined by grade of material used.

g1077(2) - 6/7/06

---

### III. PHYSICAL DATA

---

<b>Boiling Point:</b>	5000°F	<b>Melting Point:</b>	Approx. 2500°F
<b>Specific Gravity (H<sub>2</sub>O=1):</b>	Approx. 7.8 - 8.2 (60°F)	<b>Vapor Pressure (mm Hg):</b>	N/A
<b>Vapor Density (Air=1):</b>	N/A	<b>Solubility in H<sub>2</sub>O:</b>	Insoluble
<b>%Volatiles by Volume:</b>	N/A	<b>Evaporation Rate:</b>	N/A
<b>Appearance and Odor:</b>	Various shapes solid, odorless metal		

---

### IV. FIRE AND EXPLOSION DATA

---

**Flash Point:** None

**Fire Point:** None

---

### V. HEALTH HAZARD INFORMATION

---

We do not consider this product in the form is sold to constitute a physical hazard or a health hazard. Subsequent operations such as abrading, melting, welding, cutting or processing in any other fashion may produce potentially hazardous dust or fumes which can be inhaled, swallowed, or come in contact with the skin or eyes.

**PRIMARY ROUTES OF ENTRY:**

Inhalation - Eye Contact -  
Skin Contact - Ingestion

**EMERGENCY FIRST AID:**

Remove to fresh air, if condition continues - consult physician, flush area well with running water to remove particulate. Get medical attention. Brush off excess dust. Wash area well with soap and water. Seek medical help if large quantities of material have been ingested.

**EFFECTS OF OVEREXPOSURE:**

No toxic effects would be expected from exposure to the solid form of specialty steel. Prolonged, repeated exposure to fumes or dusts generated during heating, cutting, brazing or welding may or may not cause adverse health effects associated with the listed constituents in excess of OSHA permissible exposure limits established in 29 CFR Subpart Z. (See Section II).

**Exposure Limits:** Section II lists specific ingredients and permissible exposure limits.

**IMPORTANT:** Determine actual exposure by industrial hygiene monitoring.

**Possible Signs and Symptoms of Exposure to Dust, Welding Fumes and Gases:**

**Short-Term Exposure:** Metallic taste, nausea, tightness of chest, fever, irritation of eyes, nose, throat and skin; loss of consciousness/death due to welding gases or lack of oxygen.

**Long-Term Exposure:** There are no adverse effects from the products in their solid form. Adverse effects may or may not result from long-term (chronic) exposure to dust, fume, gases, etc. that occur by way of subsequent operations on the product. Some studies would associate one (or more) of the constituents (per Section II) with the potential for neurological, pulmonary, respiratory, skin or other disease. Chromium, cobalt and nickel in various chemical compounds have been identified as suspect human carcinogens by the I.A.R.C., N.T.P. Annual Report. We believe there are no reliable scientific studies which show that workers exposed to operations upon our alloys suffer increased incidence of lung cancer or other disease because of their exposure to the forms of chromium, nickel or other elements in our products.

**Aggravation of pre-existing respiratory or allergic conditions may occur in some workers.**

---

## VI. REACTIVITY DATA

---

**Stability:** Chemically Stable  
**Incompatibility:** Reacts with strong acids to generate hydrogen gas.  
**Hazardous Decomposition Products:** Metallic oxides

---

## VII. SPILL OR LEAK PROCEDURES

---

**Steps To Be Taken in Case of Release or Spill:** - N/A  
**Waste Disposal Method:** Solids - sale as scrap for reuse  
Dust, etc. - Follow Federal, State and Local regulations regarding disposal

---

## VIII. SPECIAL PROTECTION INFORMATION

---

**Ventilation Requirements:**  
General - recommended (to keep airborne concentration of dust and fumes below ACGIH TLV's)  
Local - as required

**PERSONAL PROTECTIVE EQUIPMENT:**

**Respiratory Protection** - If fumes, misting or dust condition occurs and TLV as indicated in Section II is exceeded, provide NIOSH approved respirators.

**Eye Protection** - Recommend approved safety glasses or goggles when working with dusty materials.

**Gloves** - As required

**Other Clothing or Equipment** - As required

---

## IX. SPECIAL PRECAUTIONS

---

Use good housekeeping practices to prevent accumulations of dusts and to keep airborne dust concentrations at a minimum. This material is potentially contaminated with coatings such as oils for preservatives and other contaminants. If the material is contaminated, special precautions (such as process control and personal protective equipment appropriate to the nature of the suspected contaminants should be taken to avoid resulting exposures when handling, cutting (thermal or mechanical) and/or heating or melting.

While the information set forth on this material safety data sheet is believed to be accurate, as the effective date, **Gaylee Corporation** makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, or injury of any kind which may result from or arise out of the use or reliance on the information by any person.

---

**In case of question please call:**  
**Gaylee Corporation**  
586-977-8007

**Issue Date: June 7, 2006**

**Supersedes: March, 2003**

---

g1077(2) - 6/7/06