MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Manufacturer's Name:	Union Butterfield	Telephone No.	(800) 222.8665
Address:	P.O. Box 9000, Crystal Lake, IL 60039-9000	Date Prepared:	Sept. 19, 2001

Trade Name: (Label Identity): Cutting Tools

Chemical Name (Generic): Ferrous Alloy

Common Name: Carbon Steel

II. HAZARDOUS INGREDIENTS

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

MATERIAL OR COMPONENT	CAS NO.	OSHA PEL (Mg/M^3)	ACGIH TLV (Mg/M^3)
o CHROMIUM	7440-47-3	1.0	.50
o MANGANESE	7439-96-5 (Dust)	5	.2
o MOLYBDENUM	7439-98-7	5	10
o VANADIUM	1314-62-1 (Dust)	.5 (Ceiling)	.05
	(Fume)	.1 (Ceiling)	.05
o CARBON	1333-86-4	3.5	3.5 (As Carbon Black)
o SILICON	7440-21-3 (Dust)	10	5.0
o IRON	1309-37-1	10	5
o NICKEL	7440-02-0	1.0	1.5

III. PHYSICAL DATA

Boiling Point:	5000 Degrees F
Specific Gravity (H20=1):	Approx. 7.8-8.2 (60 Degrees F)
Vapor Density (AIR=1):	N/A
% Volatiles By Volume:	N/A
Appearance & Odor:	Various Shaped, Solid, Odorless Metal
Melting Point:	Approx. 2500 Degrees F
Vapor Pressure:	N/A
Solubility in H2O:	Insoluble
Evaporation (Butyl Acetate=1):	N/A

IV. FIRE AND EXPLOSION DATA

Flash Point: None

Fire Point: None

V. HEALTH AND HAZARD INFORMATION

We do not consider this product in the form it 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 fume which can be inhaled, swallowed, or come in contact with skin or eyes.

Primary Routes of Entry	Inhalation
Emergency First Aide:	Remove to fresh air, if condition continues, consult physician
Primary Routes of Entry:	Eye Contact
Emergency First Aide:	Flush well with running water to remove particulate. Get medical attention.
Primary Routes of Entry:	Skin Contact
Emergency First Aide:	Brush off excess dust. Wash area well with soap and water
Primary Routes of Entry:	Ingestion
Emergency First Aide:	Seek medical help if large quantities of material have been ingested

Effects of exposure: 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, grinding, or welding may or may not cause adverse heath effects associated with the listed constituents in excess of OSHA permissible exposure limits established in 29 CFR Subpart 4. (See Section II).

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

Important: Determine actual exposure by industrial hygiene monitoring.

V. HEALTH AND HAZARD INFORMATION (CONT'D)

POSSIBLE SIGNS AND SYMPTOMS OF EXPOSURE TO DUST, WELDING FUMES

Short Term Exposure:	Metallic taste, nausea, tightness of chest, fever, irritation of eyes, nose, throat and skin.
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. NTP, IARC, and OSHA have identified chromium and Nickel as known or suspect carcinogens. We believe there are no reliable scientific studies which show that workers exposed to using carbon cutting tools 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 REPIRATORY 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 or release or spill:	N/A
Waste disposal methods:	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)
Personal Protective Equipment:	
Respiratory Equipment:	If fumes, misting or dust condition occurs and TLV as indicated in Section II is exceeded, provided NIOSH approved respirators.
Eye Protection:	Recommended approved safety glasses or goggles when working with dusty material.
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 of the effective date, Tivoly Inc. 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.

N/A= Non Applicable.