BLACKTITE (134)

COIL STOCK

MATERIAL SAFETY DATA

CYCLOPS EMPIRE-DETROIT STEEL DIVISION

EMPIRE DETROIT STEEL DIVISION P.O. BOX 247, MANSFIELD, OH 44901 Tel (419) 755-3011	EMERGENCY TELEPHONE NO. 24 HOUR (419) 755-3251
TRADE NAME Black Beauty	C A S NO. 65997-19-5
CHEMICAL NAME Coated Carbon Steel AISI Grade 1008	SYNONYMS Steel
PREPARED BY: A. L. Lott, Ph.D., CIH	DATE OF ISSUE/REVISION 11-25-85

1. HAZARDOUS INGREDIENTS

MATERIAL	%	ACGIH (TLV) *	OSHA (PEL) *
Iron	98.9 min.	5	10
Nickel	0.2 max.	1	1

IN ITS MANUFACTURED AND SHIPPED STATE THIS MATERIAL IS CONSIDERED NON-HAZARDOUS. PROCESSING, HOWEVER, MAY GENERATE FUMES AND PARTICULATE MATTER

*All values are in milligrams per cubic meter of air

2. PHYSICAL DATA

APPEARANCE Black Metalic	ODOR None	MELT POINT Steel ≈ 2750°F Coating < 600°F decomp	SPECIFIC GRAVITY NA
VAPOR DENSITY (AIR = 1) NA	% VOLATILE BY VOLUME NA	BULK DENSITY NA	BOILING POINT NA
VAPOR PRESSURE NA	% SOLUBILITY (H_2O) NA	EVAPORATION RATE (BuOAc=1) NA	OTHER NA

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD
NA

FLAMMABLE LIMITS
LEL NA UEL NA

EXTINGUISHING MEDIA
NA

SPECIAL FIRE FIGHTING PROCEDURES At temperatures in excess of 600°F the organic coating will begin to decompose. The exact decomposition products are unknown. Their nature will depend on the temperature. They will include oxides of carbon and nitrogen and various organic species. A self contained breathing apparatus is recommended for fighting fires. (1)

UNUSUAL FIRE AND EXPLOSION HAZARDS
Elevated temperatures will cause the decomposition of the organic coating with the subsequent release of volatile organic materials of unknown composition. At temperatures above the melting point of the steel, metal oxide fumes of iron and nickel may be liberated.

NE-NOT ESTABLISHED

4. PHYSIOLOGICAL EFFECTS

LD50 ORAL (INGESTION)	LD50 DERMAL (SKIN CONTACT)	LC50 (INHALATION)
NE	NE	NE

PRIMARY ROUTE OF EXPOSURE	THRESHOLD LIMIT VALUE (TLV)
Inhalation of dusts and fumes generated during processing	NE for Steel - See Section 7

EFFECTS OF OVEREXPOSURE

ACUTE

Inhalation of high concentrations of freshly formed oxide fumes and dusts of iron and other metals whose particle size is in the respirable range can cause an influenza-like illness termed Metal Fume Fever. Typical symptoms last 12 to 48 hours and are characterized by fever, chills, muscle aches, metallic taste in the mouth and irritation of the throat.

Inhalation of high concentrations of the coating decomposition products can cause irritation of the eyes and respiratory tract, headache, dizziness, nausea, weakness and mental confusion. Pulmonary edema is also possible.

CHRONIC

Inhalation of high concentrations of iron oxide fumes over prolonged periods of time may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide over prolonged periods may enhance the development of lung cancer in workers who are exposed to other pulmonary carcinogens and toxins. Exposure to high concentrations of nickel containing dusts and fumes may cause sensitization, dermatitis, asthma, pulmonary fibrosis and edema. Certain forms of nickel dust may cause lung or nasal cancers in humans.

5. EMERGENCY AND FIRST AID PROCEDURES

For overexposure to fumes, vapors, and particulate matter, remove exposed person to fresh air. If breathing is difficult or has stopped, administer oxygen or artificial respiration as indicated. Seek medical attention promptly.

Metal Fume Fever is normally self-limiting and should be treated symptomatically by a physician.

Overexposure to organic coating decomposition products should be treated symptomatically by a physician.

If particulate matter enters the eyes or if irritation occurs, flush with water for at least 15 minutes. If irritation persists, seek medical attention.

6. PHYSICAL HAZARDS

Steel is a heavy and dense metallic material. Care should be taken to avoid crushing type injuries.

7. SPECIAL PROTECTION INFORMATION

VENTILATION

During processing, natural or local exhaust ventilation should be provided to maintain exposures below the limits cited in Section 1. Design details for local ventilation systems may be found in the latest edition of "Industrial Ventilation: A Manual of Recommended Practices" published by the ACGIH Committee on Industrial Ventilation, P.O. Box 16153, Lansing, MI 48901.

RESPIRATORY

For exposures in excess of those cited in Section 1, by less than a factor of 10, and for exposures to organic vapors, use a minimum a NIOSH/MSHA ½ facepiece respirator with cartridges approved for organic vapors, acid gases, and dusts and fumes with an exposure limit of not less than 0.05mg/M3. If exposures may exceed 10 times the recommended limit and/or if oxides of carbon or nitrogen may be present, consult your respiratory protective equipment supplier for selection of the proper equipment.

EYE PROTECTION

Safety glasses with side shields or similar for protection against particulate matter.

PROTECTIVE GLOVES	OTHER
Protective gloves should be used during welding, burning, grinding, and handling operations.	Safety shoes or other foot protection recommended where crushing foot injuries may occur.

All chemicals should be handled so as to prevent eye contact and excessive or repeated skin contact. Appropriate eye and skin protection should be employed. Inhalation of dusts and vapors should be avoided.

8. CHEMICAL REACTIVITY

NDITIONS CAUSING INSTABILITY

NA - Stable

NCOMPATIBILITY (MATERIALS TO AVOID)

Strong Acids: Reaction will generate hydrogen gas
Strong Oxidizing Agents: will react with the organic coating

HAZARDOUS DECOMPOSITION PRODUCTS

NA

SPECIAL SENSITIVITY

NA

9. STORAGE INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

No special precautions necessary. Protection from the elements may be desirable to prevent the formation of rust.

10. SPILL, LEAK, AND DISPOSAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED

NA to steel in the solid state. Good housekeeping practices should be employed to avoid accumulations of dust, etc.

RCRA RCRA ID NUMBER

NA

WASTE DISPOSAL METHOD

Metal may be reclaimed. Dispose of in a landfill in accordance with all local, state and federal regulations

11. ADDITIONAL COMMENTS

IARC (11, 75-112, 1976). This document states that there is at least limited evidence that nickel metal and certain nickel compounds may be human carcinogens. Several nickel compounds are carcinogenic to laboratory animals by various routes of exposure.

Arch Env. Health (23, 102, 1971). A multigeneration feeding study with mice indicated that continuous ingestion of very large amounts of nickel by females produced an increase in fetal toxicity and fetal death.