

# MATERIAL SAFETY DATA SHEET

Date: 2010/01/01 MSDS No. 764

## SECTION 1: IDENTIFICATION

Manufacturer	Welding Material Sales, Inc. 1340 Reed Road Geneva, IL 60134 USA
Product Name	Coated electrodes: BD 4000
Telephone Number	630-232-6421
Fax Number	630-232-4619
Emergency Number	800-424-9300
E-mail	info@weldingmaterialsales.com

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

### PREPARATION:

Core wire: Ni>99%

### Hazardous ingredients:

**Important:** This section covers the materials of which the products are manufactured. The fumes and gases produced during normal use of this product are covering in Section 5. The term "Hazardous in "Hazardous Material" should be interpreted as a term required and defined in OSHA Hazard Communication Standard 29CFR 1910-1200 and it does not necessarily imply the existence of hazard. The chemicals or compounds reportable by Section 313 of SARA are marked by the symbol #.

INGREDIENTS	CAS #	% RANGE	OSHA PEL mg/m <sup>3</sup>	ACGIH-TLV mg/m <sup>3</sup>	CARCINOGENICITY	R-PHASE
Nickel #	7440-02-0	67-77	1	1	YES	R40, R43
Calcium Carbonate	1317-65-3	1-11	5 (Ca O)	10	NO	-
Barium Carbonate #	513-77-9	1-11	2.5 (as F)	2.5 (as F)	NO	-
Graphite	7782-42-5	1-11	15 MPPCF	2.5	NO	-
Potassium Silicate	1312-76-1	1-11	Not Regstrd.	5	NO	-
Sodium Silicate	1344-09-8	1-11	Not Regstrd.	5	NO	-
Iron	7439-89-6	1-11	5	10 (as Fe <sub>2</sub> O <sub>3</sub> )	NO	-
Mica	12001-26-2	1-11	Not Regstrd.	20 Mpp1 F	NO	-
Calcium Fluoride	14542-23-5	1-11	2.5 (as F)	2.5 (as F)	NO	-
Iron Oxide	1317-61-9	1-11	5	10 (as Fe <sub>2</sub> O <sub>3</sub> )	NO	-

MPPCF=Millions of Particles Per Cubic Foot of Air

## SECTION 3: HAZARD IDENTIFICATION

### Effects of acute exposure:

**Route(s) of entry:** Inhalation and skin contact.

**Eye and Skin:** when welding, arc rays can injure eyes and burn skin

**Inhalation:** Exposure to nickel containing dust and welding fumes, may cause irritation to upper respiratory tract. May cause respiratory sensitization in susceptible individuals.

Reasonable expected decomposition products from normal use of these products include a complex of the oxides of the materials listed in Section 2, as well as carbon monoxide, carbon dioxide, ozone, and nitrogen oxides (refer to "Characterization of Arc Welding Fume" available from the American Welding Society). THE TLV FOR MANGANESE (0.02 mg/m<sup>3</sup>) WILL BE REACHED BEFORE THE GENERAL LIMIT FOR WELDING FUMES OF 5 mg/m<sup>3</sup> IS REACHED. MONITOR FUMES FOR MANGANESE LEVELS. The only way to determine the true identity of the decomposition products is by sampling and analysis. The composition and quantity of the fumes and gases to which a worker may be overexposed can be determined from a sample obtained from inside the welder's helmet, if worn, or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes". Available from the American Welding Society.

**Ingestion:** Amounts ingested incidental to industrial handling are not likely to cause injury. Single dose oral toxicity is low.

**Effects of chronic exposure:** Refer to section 11 for specific toxicological information.

## SECTION 4: FIRST AID MEASURES

**Inhalation:** Remove victim to fresh air if effects occur.

**Skin:** Wash off with soap and plenty of water.

**Eyes:** Irrigate with water for several minutes.

**Ingestion:** Rinse mouth.

**Note to physician:** No particular advice.

## SECTION 5: FIRE FIGHTING MEASURES

**Means of extinguishing:** No danger requiring special measures.

**Special protective equipment when fighting fire:** none.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Individual precautions:** Avoid dust formation/breathing dust.

**Environmental protection precautions:** No particular indications

**Cleaning measures:** Remove spoiled product mechanically.

## SECTION 7: HANDLING AND STORAGE

### HANDLING:

With standard transportation equipment.

### STORAGE:

Store in a dry place in closed packages.

## **SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

**Technical measures:** Use adequate local exhaust for welding fumes. Avoid grinding dust inhalation.

**Exposure limits:** See section 2.

### **Personal Protection:**

- Respiratory protection:** use an air purifying dust respirator.
- Hands protection:** wear appropriate gloves to prevent skin contact.
- Eyes protection:** welder's helmets.
- Skin protection:** wear appropriate overalls to prevent skin or body contact.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Physical state:** Solid

**Odor:** none

**PH:** non-applicable

**Melting point:** 1830-2730 °F, 1000-1500° C

**Relative density:** 5-8 g/cm<sup>3</sup>

**Solubility:** insoluble in water

## **SECTION 10: STABILITY AND REACTIVITY**

### **STABILITY**

**Conditions to avoid:** not applicable

**Materials to avoid:** reacts with acids.

**Hazardous decomposition products:** unknown.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **Effects of acute exposure**

**Toxicity to animals:** Values LD/LC 50 Nickel> 9 000mg/Kg

**Local effects:** not applicable

**Inhalation:** not applicable for the product. For welding fumes see section 3.

**Ingestion:** not applicable

**Contact with skin:** may cause dermatitis in sensitized individuals.

### **CARCINOGENICITY:**

Metallic nickel and certain nickel alloys are classified possibly carcinogenic to humans, based on inadequate evidence of effects in humans. While epidemiology studies have demonstrated an increased risk of nasal, lung, and possible risk of laryngeal cancer, the most likely causative agents were nickel subsulfide, nickel sulfide and nickel oxide, with cancer linked principally to the nickel refining process of roasting nickel sulphide ores and not to metallic nickel itself. Evidence implicating metallic nickel and nickel alloys, or the hydrometallurgical nickel refining process as respiratory carcinogens for humans is lacking. Cohort mortality studies of workers in industries in which exposure was limited to metallic nickel or the hydrometallurgical process found no association between exposure to metallic nickel and its alloys to the subsequent development of respiratory cancer.

Effects of chronic (long-term) overexposure to air contaminants may lead to their accumulation in the lungs, a condition which may be seen as dense areas on chest X-rays. The severity of the change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on X-rays may be caused by non-work factors such as smoking, etc. Nickel and chromium (in some products) are considered carcinogenic. Long term overexposure to nickel fumes may also cause pulmonary fibrosis and edema. Overexposure to manganese compounds may affect the central nervous system, symptoms of which are languor, sleepiness, muscular weakness, emotional disturbances, and spastic gait. The effect of manganese on the nervous system is irreversible.

## **SECTION 12: ECOLOGICAL INFORMATION**

**About product:** data are unknown.

**About ingredients:** data are unknown.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

**Product:** For product elimination, consult recycling companies or appropriate local authority.

**Package:** May be disposed in approved landfills provided local regulations are observed.

## **SECTION 14: TRANSPORT INFORMATION**

### **INTERNATIONAL REGULATIONS:**

**Land shipment:** no hazard

-Rail/route (RID/ADR):

**Sea shipment:** no hazard

**Shipment by air:** no hazard

## **SECTION 15: REGULATORY INFORMATION**

**Label CEE:** not necessary

**Danger symbols and indications:** Xn

**R-Phrases:** R40

R43

**S-Phrases:** S22

S36

## **SECTION 16: OTHER INFORMATION**

The information in this document is believed to be correct as of the date issued. However, no warranty is expressed to be implied regarding the accuracy or completeness of this information. This information and product are furnished on the condition that the person receiving them shall make his own determinations as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof. This Material Safety Data Sheet complies with the EC directives 91/155/EEC and 93/112/EEC

Including modifications 2001/58/EC.

Complies with OSHA Communication Standard 29 CFR 1910.1200 and Superfund Amendments and Reauthorization Act (SARA) of 1986 Public Law 99-499