# Norseman Drill and Tool, Inc.

High Speed Steel Drill Bits



### **SECTION 1: Chemical Product and Company Identification**

MSDS Name: High Speed Steel Drill Bits

Manufacturer Name: Norseman Drill and Tool, Inc.

Address:

355 State St., St. Paul, MN. 55107

Business Phone: 612-227-8911

Product Description:

PRODUCT TYPE: HIGH SPEED STEEL DRILL BITS

For information in North America, call: 612-227-8911

Manufacturer MSDS Revision Date:

January 1, 1998





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SECTION 2: Hazardous Ingredients/Identity Information				
Chemical Name	CAS#			
Boron	1303-86-2			

OSHA PEL TWA: 15.00 mg/m3 ACGIH TLV TWA: 10.00 mg/m3

Chemical Name		% Weight	
Iron	1309-37-1	Bal.	

OSHA PEL TWA: 10.00 mg/m3 ACGIH TLV TWA: 5.00 mg/m3

Chemical Name		% Weight	
Vanadium	1314-62-1	1.00 - 1.90%	

OSHA STEL/Ceiling: .50\* mg/m3 (Dust); .10\* mg/m3 (Fume)

ACGIH TLV TWA: .05 mg/m3; .05 mg/m3

Comments:

\*Ceiling Limits

Chemical Name		% Weight	
Carbon	1333-86-4	l.82 - 1.07%	

OSHA PEL TWA: 3.50 mg/m3 ACGIH TLV TWA: .50 mg/m3

Chemical Name	CAS#	
Titanium	13463067-7	

OSHA PEL TWA: 15.00 mg/m3 ACGIH TLV TWA: 5.00 mg/m3

Chemical Name	CAS#	
Aluminum	7429-90-5	

ACGIH TLV TWA: 10.00 mg/m3

Chemical Name		% Weight	
Manganese	7439-96-5	.30%	

OSHA STEL/Ceiling: Ceiling: 5.00\* mg/m3 (Dust)
ACGIH STEL/Ceiling: Ceiling: 5.00\* mg/m3

Chemical Name	CAS#	% Weight	
Molybdenum	7439-98-7	4.2 - 9.50%	

OSHA PEL TWA: 15.00 mg/m3 ACGIH TLV TWA: 10.00 mg/m3

Chemical Name	CAS#	
Nickel	7440-02-0	

OSHA PEL TWA: 1.00 mg/m3 ACGIH TLV TWA: 1.00 mg/m3

Chemical Name	CAS#	% Weight	
Silicon	7440-21-3	.3045%	

### ACGIH TLV TWA: 5.00 mg/m3

Chemical Name	CAS#	% Weight	
Tungsten	7440-33-7	0 - 6.35%	

OSHA PEL TWA: (Ins. Comp.) ACGIH TLV TWA: 5.00 mg/m3

Chemical Name	CAS#	% Weight	
Chromium	7440-47-3	3.80 - 4.10%	

OSHA PEL TWA: 1.00 mg/m3 ACGIH TLV TWA: .50 mg/m3

Chemical Name	CAS#	% Weight	
Cobalt	7440-48-4	0 - 8.00%	

OSHA PEL TWA: .10 mg/m3 ACGIH TLV TWA: .05 mg/m3

Chemical Name	CAS#	
Copper	7440-50-8	

OSHA PEL TWA: .10 mg/m3 ACGIH TLV TWA: .20 mg/m3

GRADE NAME & TYPICAL CHEMISTRY (% Weight)

Grade: M-1 C: .83% Si: .35% Mn: .30% Cr: 3.80% W: 1.75% Mo: 8.50% V: 1.15% Co: ---Fe: Bal.

Grade: M-2 C: .86% Si: .30% Mn: .30% Cr: 4.10% W: 6.35% Mo: 5.00% V: 1.90% Co: ---Fe: Bal.

Grade: M-7 C: 1.00% Si: .40% Mn: .30% Cr: 3.80% W: 1.75% Mo: 8.50% V: 1.90% Co: ---Fe: Bal.

Grade: M-42 C: 1.07% Si: .30% Mn: .30% Cr: 3.80% W: 1.50% Mo: 9.50% V: 1.15% Co: 8.00% Fe: Bal.

Grade: M50 C: .82% Si: .45% Mn: .30% Cr: 4.10% W: ---Mo: 4.2% V: 1.00% Co: ---Fe: Bal.

No threshold limit values (TLV's) exist for specialty or high speed steels. Above TLV's are applicable to the constituent elements.



# SECTION 3 : Physical And Chemical Characteristics

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# Physical State/Appearance:

Various Shapes, Sizes, Metal

#### Odor:

Odorless

# Vapor Pressure:

Not Applicable

### Vapor Density:

(AIR=I): Not Applicable

#### Boiling Point:

>= 5000 deg F

#### Melting Point:

Approx. 2500 deg F

#### Solubility:

IN.H20: Insoluble

#### Specific Gravity:

(H20=1): Approx. 7.8-8.2 (60 deg F)

#### **Evaporation Point:**

(BUTYL ACETATE=1): Not Applicable

### Percent Volatile:

BY VOLUME: Not Applicable

# FlashPoint:

NONE



#### **SECTION 4 : Fire And Explosion Hazards**

# Fire:

FIRE POINT: NONE

# Flash Point:

NONE





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# **SECTION 5 : Health Hazards**

# **Applies to All Ingredients:**

#### Route of Exposure:

Inhalation, Eye Contact, Skin Contact, Ingestion

#### Potential Health Effects:

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 GRINDING, MELTING, WELDING, CUTTING OR PRO-CESSING 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.



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# **SECTION 6: Emergency And First Aid Procedures**

#### Eye Contact:

Flush well with running water to remove particulate. Get medical attention.

#### Skin Contact:

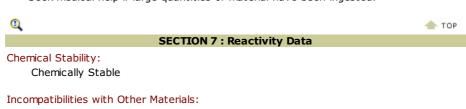
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#### Inhalation:

Remove to fresh-air, if condition continues-consult physician.

#### Ingestion:

Seek medical help if large quantities of material have been ingested.



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Reacts with Strong Acids to Generate Hydrogen Gas

# Hazardous Decomposition Products:

Metallic Oxides



### Spill Cleanup Measures:

Not Applicable

#### Waste Disposal:

Solids: Sale as Scrap

Dust, Etc.: Follow Federal, State and local regulations regarding disposal.



Local: As Required

# Hand Protection Description:

Gloves: As Required

#### Eye/Face Protection:

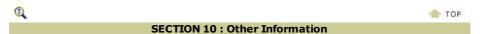
Recommended

# Protective Clothing/Body Protection:

As Required

# Respiratory Protection:

If fumes, misting or dust condition occurs and TLV as indicated in Section 2 is exceeded, provide NIOSH approved respirators.



# Label Precautions:

SPECIAL PRECAUTIONS:

USE GOOD HOUSEKEEPING PRACTICES TO PREVENT ACCUMULATIONS OF DUST AND USE GOOD VENTILA-TION PROCEDURES TO KEEP ALL AIRBORNE DUST CONCENTRATIONS TO A MINIMUM.

THIS MATERIAL MAY BE COATED WITH A LIGHT PRESERVATIVE OIL AS A RUST INHIBITOR. IF SO COATED APPROPRIATE PRECAUTIONS ALONG WITH PERSONAL PROTECTIVE EQUIPMENT SHOULD BE ISSUED AS REQUIRED.

# MSDS Revision Date:

January 1, 1998

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