



## MATERIAL SAFETY DATA SHEET

### I. PRODUCT IDENTIFICATION

MANUFACTURE'S NAME:

MELIN TOOL COMPANY  
5565 VENTURE DRIVE  
CLEVELAND, OHIO 44130  
(216-362-4200)

TRADE NAME: HSS CUTTING TOOLS

SPECIFICATION DATE: 1994

### II. HAZARDOUS INGREDIENTS

| <u>MATERIAL OR COMPONENT</u> | <u>CAS NO.</u> | <u>PERCENT</u> | <u>OSHA<br/>PEL<br/>(Mg/M3)</u>   | <u>AGGIH<br/>TLV<br/>(Mg/M3)</u> |
|------------------------------|----------------|----------------|-----------------------------------|----------------------------------|
| CARBON                       | 7440-44-0      | 1.1            | 3.5                               | 3.5                              |
| COBALT                       | 7440-48-4      | 8.3            | 0.05                              | (0.1)*                           |
| CHROMIUM                     | 7440-47-3      | 4.05           | 0.5                               | .50*                             |
| IRON                         | 1309-37-1      | 84.40          | 10.0                              | 5                                |
| MOLYBDENUM                   | 7439-98-7      | 9.8            | 10.0 TOTAL DUST<br>5.0 RESP.FRACT | 10                               |
| VANADIUM                     | 1314-62-1      | 1.2            | 0.05 (DUST)<br>0.05 (FUME)        | .05*                             |
| TUNGSTEN                     | 7440.33-7      | 1.7            | 5.0                               | 5                                |

\*REGULATED AS A TOXIC CHEMICAL UNDER SECTION 313, SARA TITLE III AND 40 CFR 372

### III. PHYSICAL DATA

|                          |  |                                |                    |
|--------------------------|--|--------------------------------|--------------------|
| BOILING POINT            | > 5000 DEG. F                          | MELTING POINT:                 | APPROX. 2500 DEG F |
| SPECIFIC GRAVITY (H2O=1) | APPROX. 7.8-8.2 (60 DEG F)             | VAPOR PRESSURE:                | N/A                |
| VAPOR DENSITY (AIR=1)    | N/A                                    | SOLUBILITY IN H2O:             | INSOLUBLE          |
| % VOLATILES BY VOLUME:   | N/A                                    | EVAPORATION (BUTYLACETATE = 1) | N/A                |
| APPEARANCE AND ODOR:     | VARIOUS SHAPES, SOLD<br>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 THAT IT IS SOLD, TO CONSTITUTE A HEALTH HAZARD. ABRADING, MELTING WELDING, CUTTING OR ANY OTHER FORM OF PROCESSING WHICH CAUSES A RELEASE OF DUST OR FUME MAY CAUSE SOME INGREDIENTS TO CHANGE TO A FORM WHICH COULD AFFECT EXPOSED WORKERS.

**PRIMARY ROUTES OF ENTRY:**  
INHALATION -EYE CONTACT-SKIN  
CONTACT-INGESTION

**EMERGENCY FIRST AID:**  
REMOVE TO FRESH AIR, IF CONDITION CONTINUES-CONSULT PHYSICIAN.  
FLUSH 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:**

**ACUTE:** SHORT TERM OVEREXPOSURE TO THE DUST, FUMES AND/OR OXIDES OF CERTAIN COMPONENTS OF STEEL

PRODUCTS MAY CAUSE IRRITATION OF THE EYES, NOSE OR THROAT; OR, MAY RESULT IN METAL FUME FEVER CHARACTERIZED BY A METALLIC OR SWEET TASTE, DRYNESS AND IRRITATION OF THE THROAT, WHEEZING, DISCOLORATION OF THE TONGUE AND FLU-LIKE SYMPTOMS.

**EFFECTS OF OVEREXPOSURE CONT'D:**

**CHRONIC:** EXCESSIVE AND PROLONGED OVEREXPOSURE TO THE DUST FUMES AND/OR OXIDES OF CERTAIN COMPONENTS OF STEEL PRODUCTS MAY RESULT IN CHRONIC INTERSTITIAL PNEUMONITIS, DISCOLORATION OF THE SKIN AND HAIR; ALLERGIC BRONCHITIS, NEOPLASMS OR LOSS OF COORDINATION AND BALANCE.

**ACUTE:**

CARBON (C) – IRRITATION OF EYES AND MUCOUS MEMBRANES  
MANGANESE (Mn) – IRRITATION OF EYES, NOSE AND THROAT, METALLIC TASTE IN THE MOUTH, ACUTE PNEUMONITIS (RESPIRATORY DISEASE).  
IRON (Fe) – IRRITATION OF EYES, NOSE AND THROAT; METAL FUME FEVER.  
CHROMIUM (Cr) – IRRITATION OF EYES AND MUCOUS MEMBRANES, DERMATITIS, SKIN ULCERS AND NASAL SEPTUM PERFORATION.  
NICKEL (Ni) – IRRITATION OF EYES AND MUCOUS MEMBRANES, DERMATITIS “NICKEL ITCH”, PULMONARY EDEMA, ASTHMA, HEADACHE AND VOMITING.  
MOLYBDENUM (Mo) – IRRITATION OF EYES AND MUCOUS MEMBRANES.  
VANADIUM (V) – AS VANADIUM PENTOXIDE DUST OR FUMES, IT MAY CAUSE IRRITATION OF EYE, NOSE AND RESPIRATORY TRACT.  
ALUMINUM (AL) – POSSIBLE IRRITATION OF EYES AND MUCOUS MEMBRANES.  
COBALT (Co) – IRRITATION OF EYES AND MUCOUS MEMBRANES.  
COOPER (Cu) – IRRITATION OF NOSE AND THROAT.  
BORON (B) – IRRITATION OF NOSE AND THROAT.  
TANTALUM (Ta) – DUST MAY CAUSE SLIGHT IRRITATION TO EYES, NOSE AND THROAT.  
TITANIUM (Ti) – CONSIDERED A PHYSIOLOGICALLY INERT DUST; HOWEVER, HIGH CONCENTRATIONS MAY CAUSE IRRITATION OF EYES AND MUCOUS MEMBRANES.  
TUNGSTEN (W) – NO ADVERSE HEALTH EFFECTS HAVE BEEN REPORTED IN HUMANS.

**CRONIC:**

CARBON (C) – IRRITATION OF EYES AND MUCOUS MEMBRANES.  
MANGANESE (Mn) – INHALATION OF FUMES AND DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DISTURBANCES, INCREASED UPPER RESPIRATORY DISORDERS AND INFECTIONS, CUMULATIVE LUNG DAMAGE, PSYCHIATRIC DISORDERS, LIVER CIRROSIS AND ANEMIA.  
IRON (Fe) – INHALATION OF IRON OXIDE FUMES AND DUST MAY CAUSE CHRONIC BRONCHITIS, CONJUNCTIVITIS, CHOROITIS, RETINITIS AND SIDEROSIS OF TISSUES.  
CHROMIUM (Cr) – THE TOXICITY AND HEALTH HAZARDS OF CHROMIUM ARE HEAVILY DEPENDENT UPON ITS OXIDATION STATE. TRIVALENT CHROMIUM AND CHROMIUM CONTAINING ALLOYS HAVE A LOW ORDER OF TOXICITY. THE HEXAVALENT FORM (CHROMATES AND CHROMIC ACIDS) MAY CAUSE IRRITANT AND ALLERGIC CONTACT DERMATITIS, SKIN ULCERS AND NASAL IRRITATION VARYING FROM RHINITIS TO PERFORATION OF THE NASAL SEPTUM. REPORTED CARCINOGEN.  
NICKEL (Ni) – NICKEL DUST OR FUME CAN CAUSE SENSITIZATION DERMATITIS, “NICKEL ITCH”, AND MAY CAUSE CANCER OF PARANASAL SINUSES AND LUNGS.  
MOLYBDENUM (Mo) – HUMAN INDUSTRIAL POISONING BY MOLYBDENUM HAS YET TO BE REPORTED.  
VANADIUM (V) – AS VANADIUM PENTOXIDE DUST OR FUMES, IT MAY CAUSE IRRITATION OF EYES, NOSE AND RESPIRATORY TRACT (MORE SEVERE THAN ACUTE EXPOSURE), CHRONIC BRONCHITIS AND ALLERGIC SKIN RASH.  
ALUMINUM (Al) – POSSIBLE IRRITATION OF EYES AND MUCOUS MEMBRANES. REPORTED AS A CAUSE OF PULMONARY FIBROSIS.  
COBALT (Co) – MAY CAUSE ALLERGIC SKIN RASHES AND RESPIRATORY DISEASE.  
COPPER (Cu) – SKIN IRRITATION; DISCOLORATION OF THE SKIN OR THE HAIR AND METAL FUME FEVER.  
BORON (B) – POSSIBLE IRRITATION OF THE RESPIRATORY TRACT AND NOSE BLEEDS.  
TANTALUM (Ta) – DUST MAY BE SLIGHT IRRITANT TO EYES, NOSE AND THROAT.  
TITANIUM (Ti) – CONSIDERED A PHYSIOLOGICALLY INERT DUST; HOWEVER, HIGH CONCENTRATIONS MAY CAUSE IRRITATION TO EYES AND MUCOUS MEMBRANES.  
TUNGSTEN (W) – NO ADVERSE HEALTH EFFECTS HAVE BEEN REPORTED IN HUMANS.

**CARCINOGENICITY:**

|               | <b>NTP</b> | <b>IARC MONOGRAPHS</b> | <b>OSHA REGULATED</b> |
|---------------|------------|------------------------|-----------------------|
| CHROMIUM (Cr) | YES        | YES                    | YES, PEL ESTABLISHED  |
| NICKEL (Ni)   | YES        | YES                    | YES, PEL ESTABLISHED  |

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## VI. REACTIVITY DATA

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STABILITY:  
INCOMPATIBILITY:

CHEMICALLY STABLE  
REACTS WITH STRONG ACIDS TO GENERATE HYDROGEN GAS

HAZARDOUS DECOMPOSITION PRODUCTS: METALLIC OXIDES

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## VII. SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE OF RELEASE OR SPILL:  
WASTE DISPOSAL METHOD:

N/A  
SOLIDS-SALE AS SCRAP  
DUST, ETC. – FOLLOW FEDERAL, STATE AND LOCAL  
REGULATIONS REGARDING DISPOSAL.

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## VIII. SPECIAL PROTECTION INFORMATION

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VENTILATION REQUIREMENTS:  
PERSONAL PROTECTIVE EQUIPMENT:  
RESPIRATORY PROTECTION:

GENERAL- RECOMMENDED. LOCAL – AS REQUIRED

EYE PROTECTION:  
GLOVES:  
OTHER CLOTHING AND EQUIPMENT:

IF FUMES, MISTING OR DUST CONDITION OCCURS  
AND TLV AS INDICATED IN SECTION II IS EXCEEDED  
PROVIDE NIOSH APPROVED RESPIRATORS.  
RECOMMENDED.  
AS REQUIRED.  
AS REQUIRED.

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## IX. SPECIAL PRECAUTIONS

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USE GOOD HOUSEKEEPING PRACTICES TO PREVENT ACCUMULATIONS OF DUST AND TO KEEP AIRBORNE DUST CONCENTRATED AT A MINIMUM.  
CUTTING TOOLS MAY SHATTER IN USE, WEAR EYE PROTECTION AND USE MACHINE SAFETY SHIELDS.

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