

MATERIAL SAFETY  
DATA SHEET

GTE PRODUCTS CORPORATION  
CHEMICAL AND METALLURGICAL DIV.  
TOWANDA, PA. 18848  
TELEPHONE: 717-265-2121

ISSUE DATE: 02-27-89  
SUPERSEDES: 10-18-88

\* CHANGE \*\* ADDITION \*\*\* CORRECTION

CHEMICAL NAME: TUNGSTEN ALLOYS

TRADE NAME AND SYNONYMS: TUNGSTEN HEAVY ALLOY WN SERIES

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TRADE NAME AND SYNONYMS: TUNGSTEN HEAVY ALLOY WN SERIES

FORMULA: W/NI + FE OR CU

CHEMICAL FAMILY: ALLOY

PHYSICAL DATA

APPEARANCE AND ODOR: GRAY METAL/NO ODOR

BOILING POINT: NA

SPECIFIC GRAVITY(H<sub>2</sub>O=1) VARIES WITH ALLOY (TUNGSTEN = 19)

VAPOR PRESSURE (MM HG): NA

PERCENT VOLATILE BY VOLUME: 0

VAPOR DENSITY (AIR=1): NA

EVAPORATION RATE: NA

SOLUBILITY IN WATER: INSOLUBLE

HOW BEST MONITORED: AIR SAMPLE

HAZARDOUS INGREDIENTS

| MATERIAL  | PERCENT BY<br>WEIGHT | OSHA<br>PEL | ACGIH<br>TLV |
|-----------|----------------------|-------------|--------------|
| TUNGSTEN  | *                    | 5 MG/M3     | 5 MG/M3      |
| NICKEL ** |                      | 1 MG/M3     | 1 MG/M3      |

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IRON 10 MG/M3 5 MG/M3  
(LIMITS ARE FOR IRON OXIDE FUME, AS FE)  
COPPER \*\* 1 MG/M3 1 MG/M3  
(LIMITS ARE FOR DUST, AS CU)

\*NOTE: COMPOSITION OF ALLOY DEPENDS ON CUSTOMER SPECIFICATIONS. ALL WN GRADES CONTAIN TUNGSTEN, NICKEL AND EITHER IRON OR COPPER.

\*\*NOTE: THESE CHEMICALS ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND RE-AUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

#### HEALTH HAZARD DATA

ROUTES OF EXPOSURE: DUST, MIST AND/OR FUMES GENERATED DURING PHYSICAL OR METALLURGICAL TREATMENT MAY BE INHALED, SWALLOWED OR COME IN CONTACT WITH THE SKIN OR EYES.

EFFECTS OF OVEREXPOSURE: DUST, MIST OR FUME INHALATION MAY CAUSE IRRITATION OF THE NOSE, THROAT AND RESPIRATORY TRACT. INHALATION OF DUST, MIST OR FUME CONTAINING NICKEL HAS THE POTENTIAL FOR CAUSING NASAL OR LUNG CANCER. SKIN CONTACT CAN CAUSE IRRITATION OR ALLERGIC SKIN RASH DUE TO NICKEL SENSITIZATION. EYE CONTACT MAY CAUSE IRRITATION. CURRENT SCIENTIFIC INFORMATION INDICATES NO ADVERSE EFFECTS ARE LIKELY FROM INGESTION OF SMALL AMOUNTS OF DUST GENERATED FROM THIS MATERIAL.

#### EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: IF SYMPTOMS OF PULMONARY INVOLVEMENT DEVELOP (COUGHING, WHEEZING, SHORTNESS OF BREATH, ETC.) REMOVE FROM EXPOSURE AND SEEK MEDICAL ATTENTION.

SKIN CONTACT: IF IRRITATION OR RASH OCCURS, THOROUGHLY WASH AFFECTED AREA WITH MILD SOAP AND WATER. PREVENT FURTHER CONTACT. IF IRRITATION OR RASH PERSIST, SEEK MEDICAL ATTENTION.

EYE CONTACT: IF IRRITATION OCCURS, REMOVE FROM EXPOSURE IMMEDIATELY AND SEEK MEDICAL ATTENTION.

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IF IRRITATION OR RASH PERSIST, SEEK MEDICAL ATTENTION.  
INGESTION: IF SUBSTANTIAL QUANTITIES ARE SWALLOWED, GIVE PERSON  
(IF CONSCIOUS) A LARGE QUANTITY OF WATER TO DRINK, INDUCE  
VOMITING AND SEEK MEDICAL ATTENTION.

CARCINOGENIC ASSESSMENT (NTP ANNUAL REPORT, IARC MONOGRAPHS, OTHER):  
NICKEL HAS BEEN IDENTIFIED AS A SUSPECTED CARCINOGEN OF THE  
RESPIRATORY TRACT BY THE NTP AND IARC.

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FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT: NA TEST METHOD USED:

FLAMMABLE LIMITS: NA LEL: UEL:

EXTINGUISHING MEDIA: FINE DUST GENERATED DURING GRINDING OPERATIONS  
MAY IGNITE IF ALLOWED TO ACCUMULATE AND SUBJECTED TO AN IGNITION  
SOURCE. COVER BURNING MATERIAL WITH AN INERT POWDER, SUCH AS DRY  
SAND OR LIMESTONE, TO EXCLUDE OXYGEN.

SPECIAL FIRE FIGHTING PROCEDURES: FOR A POWDER FIRE CONFINED TO A  
SMALL AREA, USE A RESPIRATOR APPROVED FOR TOXIC DUSTS AND FUMES.  
FOR A LARGE FIRE INVOLVING THIS MATERIAL, FIREFIGHTERS SHOULD USE  
SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: DUST MAY PRESENT A FIRE OR  
EXPLOSION. HAZARD UNDER FAVORING CONDITIONS OF PARTICLE SIZE,  
DISPERSION AND STRONG IGNITION SOURCE. HOWEVER, THIS IS NOT  
EXPECTED TO BE A PROBLEM UNDER NORMAL HANDLING CONDITIONS.

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REACTIVITY DATA

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STABILITY: STABLE

CONDITIONS TO AVOID: NA

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INCOMPATIBILITY (MATERIALS TO AVOID): AVOID CONTACT OF DUST WITH STRONG  
OXIDIZERS AND ACIDS.

HAZARDOUS DECOMPOSITION PRODUCTS: OXIDE FUMES OF THE COMPONENT  
ELEMENTS MAY BE EVOLVED AT EXTREME TEMPERATURES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NA

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#### SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

APPLICABLE FOR GRINDING DUST. VENTILATE AREA OF SPILL. CLEAN-UP  
USING METHODS WHICH AVOID DUST GENERATION SUCH AS VACUUMING ( WITH  
APPROPRIATE FILTER TO PREVENT AIRBORNE DUST LEVELS WHICH EXCEED THE  
PEL OR TLV), WET DUST MOP OR WET CLEAN-UP. IF AIRBORNE DUST IS  
GENERATED, USE AN APPROPRIATE NIOSH APPROVED RESPIRATOR.

WASTE DISPOSAL METHOD:

DISPOSE OF IN ACCORDANCE WITH APPROPRIATE GOVERNMENT REGULATIONS.  
MAY BE SOLD AS SCRAP FOR RECLAIM.

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#### SPECIAL PROTECTION INFORMATION

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RESPIRATORY PROTECTION:

VENTILATE AREA OF SPILL. CLEAN-UP USING METHODS WHICH AVOID DUST  
GENERATION SUCH AS VACUUMING (WITH APPROPRIATE FILTER TO PREVENT  
AIRBORNE DUST LEVELS WHICH EXCEED THE PEL OR TLV), WET DUST MOP OR  
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INJURY OF ANY KIND WHICH MAY RESULT FROM OR ARISE OUT OF THE USE OF OR  
RELIANCE ON THE INFORMATION BY ANY PERSON.

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