

INCO ALLOYS INTERNATIONAL, INC. DIV INTL NICKEL CO -- INCONEL ALLOY 718, (SEE SUPPL.) --  
9515-01-203-6931

===== Product Identification =====

Product ID:INCONEL ALLOY 718, (SEE SUPPL.)

MSDS Date:02/03/1998

FSC:9515

NIIN:01-203-6931

Status Code:A

MSDS Number: CLPDR

=== Responsible Party ===

Company Name:INCO ALLOYS INTERNATIONAL, INC. DIV INTL NICKEL CO

Address:3200 RIVERSIDE DR

City:HUNTINGTON

Stat

e:WV

ZIP:25705

Country:US

Info Phone Num:304-526-5100

Emergency Phone Num:304-526-5780

Resp. Party Other MSDS Num.:MSDS F

CAGE:28553

=== Contractor Identification ===

Company Name:INCO ALLOYS INTERNATIONAL, INC. DIV INTL NICKEL CO

Address:3200 RIVERSIDE DR

City:HUNTINGTON

State:WV

ZIP:25705

Country:US

Phone:304-526-5100

CAGE:28553

===== Composition/Information on Ingredients =====

Ingred Name:CHROMIUM

CAS:7440-47-3

RTECS #:GB4200000

= Wt:18.

OSHA PEL:1 MG/M3 (CR)

ACGIH TLV:0.

5 MG/M3  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:IRON  
CAS:7439-89-6  
RTECS #:NO4565500  
= Wt:19.  
OSHA PEL:10 MG/M3 DUST/FUME  
ACGIH TLV:5 MG/M3 (FE)

Ingred Name:MOLYBDENUM  
CAS:7439-98-7  
RTECS #:QA4680000  
= Wt:3.  
OSHA PEL:15 MG/M3 (T DUST)  
ACGIH TLV:10 MG/M (MO)

Ingred Name:NICKEL  
CAS:7440-02-0  
RTECS #:QR5950000  
= Wt:54.  
OSHA PEL:1 MG/M3  
ACGIH TLV:1 MG/M3  
EPA Rpt Qty:100 LBS  
DOT Rpt Qty:100 LBS

Ingred Name:NIOBIUM  
CAS:7440-03-1  
RTECS #:QT9900000  
= Wt:5.

Ingred Name:TITANIUM  
CAS:7440-32-6  
R  
TECS #:XR1700000  
= Wt:1.

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===== Hazards Identification =====

Reports of Carcinogenicity:NTP:UNKNOWN IARC:YES  
Health Hazards Acute and Chronic:AS SHIPPED THIS ALLOY HAS NO KNOWN  
TOXICOLOGICAL PROPERTIES OTHER THAN CAUSING ALLERGIC REACTIONS IN  
INDIVIDUAL SENSITIVE TO THE METALS CONTAINED IN THE ALLOY. USER  
GENERATED DUSTS AND FUMES MAY ON CO NTACT WITH THE SKIN OR EYES  
PRODUCE MECHANICAL IRRITATION. CHRONIC EXPOSURES COULD CAUSE  
DERMATITIS

(SKIN) OR CONJUNCTIVITIS (EYES). EXCESSIVE INHALATION OF USER GENERATED FUMES FROM HIGH TEMPERATURE CUTTING OR WELDING OF THESE ALLOYS MAY, DEPENDING ON THE SPECIFIC FEATURES OF PROCESS USED, POSE A LONG TERM HEALTH HAZARD. THE INGREDIENTS OF FUMES AND GASES GENERATED IN USER WELDING, GRINDING, AND HIGH (CONTD. SEE "TOXICOLOGICAL")

Explanation of Carcinogenicity:IARC HAS CONCLUDED THAT WELDING FUMES ARE POSSIBLY CARCINOGENIC TO HUMANS. NTP HAS LISTED NICKEL AS REASO

NABLY ANTICIPATED TO BE A CARCINOGEN.

Effects of Overexposure:AS SHIPPED THESE COMPLEX ALLOYS HAVE NO KNOWN TOXICOLOGICAL PROPERTIES OTHER THAN CAUSING ALLERGIC REACTIONS IN INDIVIDUALS SENSITIVE TO METALS CONTAINED IN THE ALLOYS. USER GENERATED DUSTS AND FUMES. MECHANICAL IRRITATION. DERMITITIS, CONJUNCTIVITIS (EYES),.ASTHMATIC SYMPTOMS,.ECZEMATOUS ERUPTIONS, RESPIRATORY TRACT IRRITATION, SIDEROSIS, RUST BROWN COLORED SPOTS ON EYES, GOUT-LIKE DISEASE, HIGH BLOOD URIC AC

ID, KIDNEY DAMAGE, LIVER DAMAGE, SENSITIZATION, ALLERGIC REACTION, LUNG FIBROSIS, CHRONIC BRONCHITIS.

===== First Aid Measures =====

First Aid:EYE: FLUSH PARTICULES FROM EYEBALLS WITH CLEAN WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEEK MEDICAL HELP. SKIN: WASH SKIN WITH SOAP AND WATER TO REMOVE ANY METALLIC PARTICLES. IF A RASH DEVELOPES, SEEK MEDICAL ATTENTION. INHLATION: REMOVE FROM EXPOSURE. IF SEVERE RESPIRATORY IRRITATION PERSISTS, SEEK MEDICAL HELP. INGESTION: IF SYMPTOMS OF INGESTION ARISE, SEEK MEDICAL HELP.

===== Fire Fighting Measures =====

Flash Point:NON-FLAMMABLE  
Fire Fighting Procedures:NONFLAMMABLE, HOWEVER SPARKS FROM WELDING, GRINDING IN USER OPERATIONS COULD IGNITE FLAMMABLE OR COMBUSTIBLE LIQUIDS, VAPORS , AND SOLIDS.

===== Accidental Release Measures =====

Spill Release Procedures:VACUUM OR SHOVEL ANY SPILLED MA

TERIAL INTO A

SUITABLE CONTAINER. ALLOY WASTES ARE NORMALLY COLLECTED TO RECOVER METAL VALUES.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:RESPIRATORY PROTECTION IS NECESSARY WHEN EXPOSURE LIMITS OF AIRBORNE CONTAMINANTS ARE EXCEEDED DURING CUTTING, GRINDING OR WELDING ON THESE ALLOYS. USE AIR SUPPLIED RESPIRATOR IN CONFINED SPACES. USE ONLY NIOSH APPROVED RESPIRATORS IN ACCORDANCE WITH 29 CFR 1910.134.

Ventilation:USE LOCA

L EXHAUST VENTILATION WHEN CUTTING, GRINDING, WELDING. MAINTAIN EXPOSURE BELOW ACCEPTABLE EXPOSURE LIMITS. CONFINED SPACES REQUIRE SPECIAL ATTENTION .

Protective Gloves:WEAR GLOVES

Eye Protection:EYE PROTECTION IS RECOMMENDED WHEN CUTTING, GRINDING, WELDING..

Other Protective Equipment:WEAR FACE PROTECTION AND FLAME RETARDANT CLOTHING.

Work Hygienic Practices:DO NOT EXPOSE SKIN OR EYES TO THE HEAT AND RADIATION FROM WELDING OPERATIONS.

Supplemental Safety and Health

THIS MSDS

COVERS BOTH ALLOY PLATES, SHEETS, STRIPS, ETC. AND WELDING RODS. THIS PRODUCT UNDER THIS NSN IS FOR ALLOY STRIPS 10 FT LONG BY 3 INCH WIDE BY 0.071 INCHES THICK. THIS ITEM IS NOT HAZARDOUS UNLESS INVOLVED WITH WELDING, GRINDING, AND HIGH TEMPERATURE CUTTING OPERATIONS.

===== Physical/Chemical Properties =====

HCC:N1

Net Prop Wt for Ammo:N//P

Melt/Freeze Pt:>1400.C, #####F

Spec Gravity:8-9MG/CC

Appearance and Odor:SOLID, SILVER-COLORED METAL STRIP 10 FT LONG BY 3

IN. WIDE BY 0.071 IN. THICK.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

Stability Condition to Avoid:THIS MATERIAL IS NON-REACTIVE (STABLE) AS SHIPPED.

===== Toxicological Information =====

Toxicological Information:(CONTD. FROM HEALTH HAZARD") TEMPERATURE CUTTING OPERATIONS WILL DEPEND ON THE BASE METAL, ELECTRODE, FLUX, AND SPECIFIC PROCESS BEING USED. INGREDIEN

TS MAY INCLUDE METALS,  
METAL OXIDES, CHROMATES, FLUORIDES, CARBON MONOXIDE, OZONE, AND  
OXIDES OF NITROGEN. PHOSGENE CAN BE PRODUCED IF CHLORINATED SOLVENT  
VAPORS ARE PRESENT IN USER OPERATIONS. FOLLOWING INFORMATION IS  
PRIMARILY DIRECTED TO THE INGREDIENTS OF THE COMPLEX ALLOYS  
LISTED. ALTHOUGH IT IS THE USER'S RESPONSIBILITY TO ASSESS END  
PRODUCTS, INTERMEDIATES OR FUGITIVE EMISSIONS ARISING OUT OF THE  
USE OF THESE ALLOYS. INFORMATION FOR FUMES FOLLOW. (CONTD. SEE  
"ECOLOGICAL")

===== Ecological Information =====

Ecological:(CONTD FROM "TOXICOLOGICAL")CHROMIUM METAL IS RELATIVELY  
NONTOXIC. CHROMIUM METAL AND INSOLUBLE SALTS ARE SAID TO BE  
INVOLVED IN FIBROSIS OF THE LUNGS. WHEN HEATED TO A HIGH  
TEMPERATURE, FUMES PRODUCED MAY BE DAMAGING TO THE LUNGS IF  
INHALED. FUMES FROM WELDING CHROMIUM-CONTAINING STAINLESS STEEL OR  
CERTAIN CHROMIUM-CONTAINING RODS CAN TRIGGER ECZEMATOUS ERUPTIONS  
ON THE P

ALMS OF THE HANDS OF CHROMIUM SENSITIZED INDIVIDUALS.  
INHALATION OF THE EXCESSIVE OXIDE FUMES OR DUSTS CAN LEAD TO  
IRRITATION OF THE RESPIRATORY TRACT. PROLONGED INHALATION OF IRON  
OXIDE FOR PERIODS OF 6 TO 10 YEARS IS KNOWN TO CAUSE (CONTD. SEE  
"TRANSPORT")

===== Disposal Considerations =====

Waste Disposal Methods:IF DISPOSAL IS NECESSARY, DISPOSE OF IN  
ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

===== MSDS Transportation Information =====

Transport Information:(CONTD. FROM "ECOLOGICAL") SIDEROSIS WHICH  
APPEARS TO BE A BENIGN PNEUMOCONIOSIS. PROLONGED EYE CONTACT WITH  
THE METAL DUST COULD CAUSE RUST BROWN COLORED SPOTS FORMING AROUND  
PARTICLES AND IF LEFT FOR SEVERAL YEARS, PERMANENT DAMAGE COULD  
RESULT. MOLYBDENUM: THIS INGREDIENT AND ITS INSOLUBLE COMPOUNDS ARE  
REPORTED TO HAVE A LOW TOXICITY. HIGH DIETARY INTAKE MAY PRODUCE  
GOUT-LIKE DISEASE AND HIGH BLOOD URIC

ACID. INHALATION OF FUMES

HAS CAUSED KIDNEY DAMAGE, RESPIRATORY IRRITATION, AND LIVER DAMAGE IN ANIMALS. SKIN AN EYE CONTACT MAY CAUSE IRRITATION. NICKEL: A KNOWN SENSITIZER AND MAY PRODUC E ALLERGIC (CONTD. SEE "OTHER INFO.")

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Regulatory Information  
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SARA Title III Information:SECTION 313 SUPPLIER NOTIFICATION:

INDIVIDUAL ALLOYS MAY CONTAIN THE FOLLOWING TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY

PLANNING AND COMMUNITY RIGHT -TO - KNOW ACT OF 1986: CHROMIUM, 18 WT %, CAS # 7440-47-3 AND NICKEL, 54 WT %. CAS # 7440-02-0.

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Other Information  
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Disclaimer (provided with this information by the compiling agencies):

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