

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

State: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
RTECS #:XR1700000
= Wt:1.

===== 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 USE

R 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 REASONABLY 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 ACID, 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 MATERIAL 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 LOCAL EXHAUST VENTILATION WHEN CUTTING, GRINDING, WELDING. MAINT

AIN 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.

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==== 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. INGREDIENTS 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
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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 PALMS 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 Transport 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

ORY 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.")

===== Regulatory Information =====

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.

===== Other Information =====

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