METAL GOODS SERVICE CENTERS -- ALUMINUM ALLOYS 1XXX THRU 8XXX SERIES, P633 -- 9510-00N037730

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

Product ID:ALUMINUM ALLOYS 1XXX THRU 8XXX SERIES, P633
MSDS Date:11/02/1991
FSC:9510
NIIN:00N037730
MSDS Number: BQVCM
=== Responsible Party ===
Company Name:METAL GOODS SERVICE CENTERS
Box:346
City:ST LOUIS
State:MO
ZIP:63166
Country:US
Info Phone Num:314-427-1234
Emergency Phone Num:216-523-6860
CAGE:39861
=== Contractor Identification ===
Company Name:METAL GOODS SERVICE CENTERS DIV OF ALCAN ALUMINUM CORP
Box:346
City:ST LOUIS
State:MO
ZIP:63166
Country:US
Phone:314-427-1234
CAGE:39861

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

Ingred Name:CARCIN: (IARC) IARC MONOGRPH. VOL. 52, P. 363, 1991.
RTECS #:9999999ZZ

Ingred Name:OTHER PREC: INFORMATION AND SAFE HANDLING & EXPOSURE
INFORMATION .
RTECS #:9999999ZZ

Ingred Name:ALUMINUM (SARA III). PEL: 15 MG/M3 DUST;5 MG/M3 RDUST.
CAS:7429-90-5
RTECS #:BD0330000
Fraction by Wt: 80-99%
OSHA PEL:SEE INGREDIENT NAME
ACGIH TLV:10MG/M3 DUST

Ingred Name:COPPER (SARA III)
CAS:7440-50-8
RTECS #:GL5325000
Fraction by Wt: <10%
OSHA PEL:1MG/M3 DUST;OIL FUME
ACGIH TLV:1MG/M3 DUST;OIL FUME
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:MAGNESIUM. PEL: 10 MG/M3 TDUST; 5 MG/M3 RDUST.
CAS:7439-95-4

RTECS #:OM2100000
Fraction by Wt: < 10%
OSHA PEL:SEE INGREDIENT NAME
ACGIH TLV:10 MG/M3 TDUST

Ingred Name:ZINC (SARA III)
CAS:7440-66-6
RTECS #:ZG8600000
Fraction by Wt: < 10%
OSHA PEL:5 MG/M3 STEL
ACGIH TLV:5 MG/M3 STEL
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:COBALT (SARA III). LD50: (ORAL,RAT) 6170 MG/KG
CAS:7440-48-4
RTECS #:GF8750000
Fraction by Wt: < 2%
OSHA PEL:0.1 MG/M3;AS CO
ACGIH TLV:0.05 MG/M3;DUST 9293

Ingred Name:IRON
CAS:7439-89-6
RTECS #:NO4565500
Fraction by Wt: < 2%
OSHA PEL:10 MG/M3 DUST
ACGIH TLV:5 MG/M3 FUME

Ingred Name:MANGANESE (SARA III). LD50: (ORAL,RAT) 9000 MG/KG
CAS:7439-96-5
RTECS #:OO9275000
Fraction by Wt: < 2%
OSHA PEL:(C) 5 MG/M3 DUST
ACGIH TLV:5 MG/M3 DUST 9293

Ingred Name:SILICON. LD50: (ORAL,RAT) 3160 MG/KG. PEL: 10 MG/M3 TDUST;5
    MG/M3 RDUST.
CAS:7440-21-3
RTECS #:VW0400000
Fraction by Wt: < 2%
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:10 MG/M3 TDUST; 9293

Ingred Name:TIN
CAS:7440-31-5
RTECS #:XP7320000
Fraction by Wt: < 0.5%
OSHA PEL:2 MG/M3
ACGIH TLV:2 MG/M3

Ingred Name:CHROMIUM (SARA III)
CAS:7440-47-3
RTECS #:GB4200000
Fraction by Wt: < 0.5%
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3
EPA Rpt Qty:1 LB

DOT Rpt Qty:1 LB

Ingred Name:NICKEL (SARA III). LD50: (ORAL,RAT) 100 MG/KG
CAS:7440-02-0
RTECS #:QR5950000
Fraction by Wt: < 0.5%
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3

Ingred Name:LEAD (SARA III)
CAS:7439-92-1
RTECS #:OF7525000
Fraction by Wt: < 1%
OSHA PEL:0.05 MG/M3
ACGIH TLV:0.15 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:SUPP DATA: PRESENT LOW HEALTH RISKS. WELDING OR PLASMA ARC
    CUTTING OF ALUMINUM ALLOYS CAN GENERATE OZONE, NITRIC(ING 14)
RTECS #:9999999ZZ

Ingred Name:ING 13: OXIDES AND ULTRAVIOLET RADIATION. OZONE
    OVEREXPOSURE MAY RESULT IN MUCOUS MEMBRANE IRRIT OR PULM
    DISCOMFORT.
RTECS #:9999999ZZ

Ingred Name:ING 14: LEAD (7439-92-1) APPEARS ON NAVY LISTING OF OCCUP
    REPRODUCTIVE HAZARDS. SEEK CONSULTATION FROM APPROP (ING 16)
RTECS #:9999999ZZ

Ingred Name:ING 15:HLTH PROFESSIONALS CONCERNING LATEST HAZ LIST
    INFORMATION & SAFE HANDLING & EXPOSURE RECOMMENDATIONS .
RTECS #:9999999ZZ

Ingred Name:VENT: MAY BE REQUIRED TO AVOID EXPLO HAZ. SEE "NATIONAL
    FIRE PROTECTION ASSOCIATION" CODES, NFPA 65 AND 651.
RTECS #:9999999ZZ

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

LD50 LC50 Mixture:SEE INGREDIENTS
Routes of Entry: Inhalation:YES Skin:NO Ingestion:YES
Reports of Carcinogenicity:NTP:YES   IARC:YES   OSHA:NO
Health Hazards Acute and Chronic:ACUTE: INHAL: IN THE FORM OF INGOT,
    ALUMINUM DOES NOT PRESENT AN INHALATION HAZARD. ALUMINUM AND
    SILICON DUSTS GENERATED DURING USE ARE CONSIDERED NUISANCE
    PARTICULATES WHICH HAVE LITTLE EFFECT ON THE LUNGS. HIGH CONC OF
    FRESHLY-FORMED FUMES OF COPPER, MAGNESIUM, MANGANESE OR ZINC OXIDES
    CAN PRODUCE (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NICKEL:ANTICIPATED TO BE A CARCIN (NTP).
    GROUP 2B (IARC), IARC MONOGRPHS, VOL. 49, P. 257, 1990. COBALT: GRP
    2B (ING 18)
Effects of Overexposure:HLTH HAZ: SYMPTOMS OF METAL FUME FEVER. HIGH
    CONC OF COPPER DUST CAN CAUSE IRRIT OF THE UPPER RESP TRACT. SKIN:
    SKIN CNTCT W/METAL CAN CAUSE BURNS. EYE: ALUMINUM DUST CAN IRRITATE
    THE EYES (MECHANICAL ABRASION). LEAD CMPNDS BIOACCUMULATE. THE

MOST FREQUENT CHRONIC EFTS ARE ANEMIA, KIDNEY & CNS DAMAGES. MED (SUPP DATA)

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

First Aid:INHAL: REMOVE TO A VENTILATED AREA. IF DISCOMFORT PERSISTS, CONSULT A PHYSICIAN. SKIN: IN CASE OF BURNS, RINSE WITH PLENTY OF COLD WATER. IF BURN IS SEVERE, CONSULT A PHYSICIAN. EYE: FLUSH EYES THOROU GHLY WITH WATER FOR AT LEAST 15 MIN. IFIRRITATION PERSISTS, CONSULT A PHYSICIAN. INGEST: CALL MD IMMEDIATELY .

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

Extinguishing Media:IN CASE OF ALUMINUM FIRES, USE A CLASS D DRY-POWDER EXTING OR DRY SAND. DO NOT USE WATER OR HALOGENATED EXTING MEDIA.
Fire Fighting Procedures:WEAR NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT .
Unusual Fire/Explosion Hazard:NOT A FIRE HAZARD UNLESS IN FINELY-DIVIDED FORM. SUSPENSIONS OF ALUMINUM DUST IN AIR MAY POSE A SEVERE EXPLOSION HAZARD.

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

Spill Release Procedures:RECYCLE. FINELY-DIVIDED ALUMINUM MAY BE REACTIVE AND ITS HAZARD CHARACTERISTICS SHOULD BE DETERMINED PRIOR TO DISPOSAL.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:BECAUSE OF RISK OF EXPLOS, ALUMINUM INGOTS & METAL SCRAP SHLD BE THORO DRIED PRIOR TO REMELTING. USE STD TECHNIQUES TO CHEK METAL TEMP BEFORE HNDLG.
Other Precautions:HOT ALUMINUM DOES NOT PRESENT ANY WARNING COLOR CHANGE. EXERCISE GREAT CAUTION, SINCE THE MEATAL MAY BE HOT. NOTE: LEAD APPEARS ON THE NAVY LISTING OF OCC. CHEM. REPRO. HAZ. CONSULT APPROP. HLTH PROFE SSIONAL ABOUT LATEST HAZ LIST (ING 19)

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

Respiratory Protection:USE NIOSH/MSHA APPROVED RESPIRATOR DESIGNED FOR THE HAZARD, WHERE CONCENTRATIONS EXCEED EXPOSURE LIMITS.
Ventilation:IF VENT IS USED TO CONVEY FINELY DIVIDED ALUMINUM GENERATED BY GRINDING, SAWING ETC. SPECIAL VENT PROVISIONS (ING 17)
Protective Gloves:IMPERVIOUS GLOVES .
Eye Protection:CHEMICAL WORKERS GOGGLES
Other Protective Equipment:THE USE OF BOTH PRIMARY AND SECONDARY PROTECTIVE EQUIPMENT IS NECESSARY WHEN HANDLING MOLTEN METAL.
Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER.
Supplemental Safety and Health
MATLS TO AVOID: ACIDS, HALOGENATED SOLVENTS, BROMATES, IODATES OR AMMONIUM NITRATE. FINELY-DIVIDED ALUMINUM CAN THERMITE IN PRESENCE OF COPPER, LEAD, OR IRON OXIDES. EFTS OF OVEREXP: SURVEILLANCE SHOU LD BE UNDERTAKEN TO PVNT HIGH BLOOD LEAD LEVELS. SUPP INFO: ALUMINUM FUMES GENERATED DURING WELDING OR MELTING (ING 13)

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

Melt/Freeze Pt:M.P/F.P Text:<2228F
Spec Gravity:> 2 (WATER=1)
Appearance and Odor:NONE SPECIFIED BY MANUFACTURER.

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

Stability Indicator/Materials to Avoid:YES
MOLTEN ALUMINUM MAY EXPLO ON CNTCT W/WATER. FINELY-DIVIDED ALUMINUM MAY EXPLODE WHEN MIXED W/HALOGENATED (SUPP DATA)
Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products:FINELY-DIVIDED ALUMINUM REACTS W/HALOGENATED ACIDS, WATER, AND SODIUM HYDROXIDE, PRODUCING HYDROGEN GAS.

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

Waste Disposal Methods:DISPOSE OF WASTE IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REGULATIONS.