

ARCOS ALLOYS DIVISION OF HOSKINS MFG. CO. -- STAINLESS STEEL ALLOYS, 317 --  
3439-01-067-0697

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

Product ID:STAINLESS STEEL ALLOYS, 317  
MSDS Date:05/01/1994  
FSC:3439  
NIIN:01-067-0697  
Status Code:A  
MSDS Number: CKXXD  
=== Responsible Party ===  
Company Name:ARCOS ALLOYS DIVISION OF HOSKINS MFG. CO.  
Address:#1 ARCOS DRIVE  
City:MT CARMEL  
State:PA  
ZIP:17851  
Country:US  
Info  
Phone Num:570-339-5200; 717-339-5200  
Emergency Phone Num:800-424-9300 (CHEMTREC)  
Resp. Party Other MSDS Num.:106  
CAGE:19270

=== Contractor Identification ===

Company Name:ARCOS ALLOYS DIVISION OF HOSKINS MFG. CO.  
Address:#1 ARCOS DRIVE  
Box:City:MT CARMEL  
State:PA  
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CAGE:19270

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

Ingred Name:IRON (FE)  
CAS:7439-89-6  
RTECS #:NO4565500  
Fraction by Wt: BALANCE  
OSHA PEL:NONE  
ACGIH T

LV:NONE

Ingred Name:CHROMIUM (CR)

CAS:7440-47-3

RTECS #:GB4200000

Fraction by Wt: 20.5%

OSHA PEL:1 MG/M3

ACGIH TLV:0.5 MG/M3

EPA Rpt Qty:1 LB

DOT Rpt Qty:1 LB

Ingred Name:MANGANESE (MN)

CAS:7439-96-5

RTECS #:OO9275000

Fraction by Wt: 2.5%

OSHA PEL:5 MG/M3 CEILING

ACGIH TLV:5 MG/M3

Ingred Name:NICKEL (NI)

CAS:7440-02-0

RTECS #:QR5950000

Fraction by Wt: 15%

OSHA PEL:1 MG/M3

ACGIH TLV:1 MG/M3

Ingred Name:MOLYBDENUM

CAS:7439-98-7

RTECS #:QA4680000

= Wt:4.

ACGIH TLV:10 MG/M3

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= Hazards Identification =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO

Health Hazards Acute and Chronic:THIS PRODUCT POSES NO HEALTH HAZARD AS SHIPPED BUT MAY POSE A HEALTH HAZARD DURING USE. ELECTRIC ARC WELDING RAYS CAN INJURE EYES AND BURN SKIN. DUST, FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH. LUNG DAMAGE MAY RESULT FROM OVEREXPOSURE. SECTIONS (INGREDIENTS AND REACTIVITY) LIST S

## PECIFIC

HAZARDOUS INGREDIENTS, REACTION PRODUCTS AND OSHA PEL'S AND ACGIH TLV'S. PRIMARY ROUTE OF ENTRY: FUMES, GASES AND DUST CAN BE A HEALTH HAZARD THRU INHALATION. ACUTE EXPOSURE: SHORT TERM EXPOSURE TO WELDING FUMES, GASES OR DUST MAY RESULT IN DISCOMFORT SUCH AS DIZZINESS, NAUSEA, FEVER, DRYNESS AND/OR (SIGNS AND SYMPTOMS OF OVEREXPOSURE)

Explanation of Carcinogenicity:NICKEL: IARC GROUP 2B, VOL 49, PG 257, 1990. NTP 9TH ANNUAL REPORT ON CARCINOGENS.

## Effects

of Overexposure:HEALTH HAZARDS ACUTE AND CHRONIC (CONT):

IRRITATION OF NOSE, THROAT AND EYES. SKIN SENSITIVITY MAY ALSO BE NOTED. ACUTE EXPOSURE CAN RESULT IN THE SAME SYMPTOMS EXCEPT TO A GREATER DEGREE AS WELL AS WATERY EYES, HEADACHE, BREATHING DIFFICULTY, FREQUENT COUGHING AND/OR CHEST PAINS. SOME TOXIC GASES MAY CAUSE PULMONARY EDEMA, ASPHYXIATION AND EXCESSIVE EXPOSURE CAN BE FATAL. CHRONIC EXPOSURE: CHRONIC EXPOSURE MAY RESULT IN NEUROLOGICAL DAMAGE, LUNG FI

BROSIS, PNEUMONCONIOSIS AND OTHER LUNG

DISEASES. NICKEL AND CHROMIUM ARE CONSIDERED POSSIBLE CARCINOGENS UNDER OSHA (29 CFR 1910.1200). THE STUDIES FORMING THE BASIS (TOXICOLOGICAL INFO)

Medical Cond Aggravated by Exposure:SOME WORKERS MAY EXPERIENCE

DISCOMFORT AT CONCENTRATIONS BELOW THE TLV & OTHERS MAY BE AFFECTED BY PRE-EXISTING CONDITIONS OR OTHER OCCUPATIONAL ILLNESS BECAUSE OF WIDE VARIATION IN INDIVIDUAL SUSCEPTIBILITIES.

===== First Aid Measures =====  
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First Aid:IN CASE OF ELECTRIC SHOCK, TURN OFF POWER PRIOR TO REMOVAL FROM EXPOSURE AREA AND ADMINISTRATION OF FIRST AID. INHALATION: REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT ADMINISTER OXYGEN. IF NOT BREATHING BEGIN ARTIFICIAL RESPIRATION. IF NO DETECTABLE PULSE BEGIN EXTERNAL HEART MASSAGE. SKIN: WASH AFFECTED AREA WITH SOAP AND WATER. EYES: FLUSH WITH LARGE AMOUNTS OF FRESH WATER FOR AT LEAST 15 MINUTES. INGESTION: SEEK MEDICAL ATTENTION.

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

Flash Point:NONFLAMMABLE

Extinguishing Media:MEDIA SUITABLE FOR SURROUNDING FIRE .

Fire Fighting Procedures:USE NIOSH APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT .

Unusual Fire/Explosion Hazard:NONFLAMMABLE; HOWEVER, ARCS, SPARKS AND MOLTEN METAL CAN IGNITE FLAMMABLES AND COMBUSTIBLES OR CAUSE EXPLOSIONS.

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

Spill Release Procedures:CLEAN UP ANY GRIND

ING DUST OR WASTE RESIDUES

AND PLACE IN SUITABLE DEPARTMENT OF TRANSPORTATION (DOT) APPROVED CONTAINERS AND DISPOSE OF IN FULL COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. AVOID INHALATION AND SKIN EXPOSURE.

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

Respiratory Protection:USE WELD FUME RESPIRATOR OR AIR SUPPLIED RESPIRATOR WHEN CUTTING, GRINDING OR WELDING IN A CONFINED SPACE OR WHERE LOCAL EXHAUST OR GENERAL VENTILATION DOES NOT KEEP EXPOSURE

BELOW RECOMMENDED LIMITS. MONITOR THE AIR QUALITY INSIDE THE WELDER'S HELMET, IF WORN, AND/OR THE WORKER'S BREATHING ZONE TO DETERMINE IF A RESPIRATOR (SUPPLEMENTAL SAFETY AND HEALTH)

Ventilation:USE ENOUGH VENTILATION WHEN CUTTING, GRINDING OR WELDING TO KEEP DUST, FUMES AND GASES FROM THE WORKER'S BREATHING ZONE AND (SUPPLEMENTAL SAFETY AND HEALTH)

Protective Gloves:IMPERVIOUS GLOVES .

Eye Protection:USE OSHA APPROVED GOGGLES, GLASSES AND/OR FACE SHIELD (WORK HYGIENIC PRACTICES)

Other Protective Equipment:ANSI APPROVED EYE WASH & DELUGE SHOWER .

PROTECTIVE CLOTHING: WEAR GLOVES AND FLAME RETARDANT CLOTHING WHEN CUTTING, GRINDING OR WELDING. DO NOT EXPOSE SKIN TO (SUPPLEMENTAL SAFETY AND HEALTH)

Work Hygienic Practices:EYE PROTECTION (CONT): WHEN CUTTING, GRINDING OR WELDING. IN ADDITION, WHEN HOT CUTTING OR WELDING, WEAR WELDING HELMET OR FACE SHIELD WITH FILTER LENS. SELECT WELDING LENS SHADE FROM AWS PUB F2.2.

Supplemental Safe

ty and Health

RESP PROT (CONT): IS REQUIRED AND THE TYPE NEEDED. USE ONLY NIOSH APPROVED RESPIRATORS. VENTILATION (CONT): GENERAL AREA. KEEP EXPOSURE BELOW THE LIMITS SPECIFIED IN (INGREDIENTS AND REACTIVITY) SECTIONS. OTHER PROT EQUIP (CONT): RADIATION WHEN HOT CUTTING OR WELDING. PROVIDE PROTECTIVE SCREENS TO SHIELD OTHERS.

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

HCC:T6

Appearance and Odor:BARE FILLER METALS ARE SOLID WIRE.

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= Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES

Hazardous Decomposition Products: WELDING AND HOT CUTTING FUMES AND GASES CANNOT BE CLASSIFIED SIMPLY. THEIR COMPOSITION AND QUANTITY ARE DEPENDENT ON THE METAL BEING WELDED, THE PROCEDURES, PROCESSES AND TYPE OF WIRE (ECOLOGICAL INFO)

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

Toxicological Information: N/P. SIGNS AND SYMPTOMS OF OVEREXPOSURE (CONT): FOR

THIS CLASSIFICATION WERE FROM OPERATIONS

OTHER THAN WELDING OF CHROMIUM OR NICKEL. THERE IS CONSIDERABLE CONTROVERSY ON THE EXTENT OF RESPIRATORY CANCER PROBLEMS DUE TO NICKEL AND CHROMIUM. NEVERTHELESS EXPOSURES MUST BE MAINTAINED BELOW THE LEVELS SPECIFIED IN (INGREDIENTS AND REACTIVITY) SECTIONS.

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

Ecological: N/P. HAZARDOUS DECOMPOSITION PRODUCTS (CONT): OR ELECTRODES USED. OTHER INFLUENCING FACTOR

S ARE THE PRESENCE OF

CONTAMINANTS IN THE ATMOSPHERE. DECOMPOSITION PRODUCTS FROM THE WELDING OR CUTTING OPERATION INCLUDE THOSE FROM THE VOLATILIZATION, REACTION AND/OR OXIDATION OF THE MATERIALS IN (INGREDIENTS) SECTION AND MAY INCLUDE OXIDES OF THE METALS, CHROMATES AND COMPLEX METALLICS. GASEOUS REACTION PRODUCTS MAY INCLUDE CARBON MONOXIDE, OZONE AND NITROGEN OXIDES. CHLORINATED SOLVENTS MAY BE DECOMPOSED INTO TOXIC GASES SUCH AS PHOSGENE. WHEN ELECTRODES

ARE CONSUMED, THE FUME AND GAS DECOMPOSITION PRODUCTS (TRANSPORT INFO)

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

Waste Disposal Methods: DISPOSE OF IN FULL COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

===== MSDS Transport Information =====

Transport Information: N/P. ECOLOGICAL INFO (CONT): GENERATED

ARE DIFFERENT IN FORM FROM THE INGREDIENTS LISTED IN (INGREDIENTS) SECTION. NEW COMPOUNDS NOT IN THE ELECTRODE

S MAY FORM. THE KNOWN  
GASES AND FUMES THAT MAY FORM DURING WELDING OR HOT CUTTING AND  
THEIR EXPOSURE LIMITS ARE NOTED IN THE FOLLOWING TABLE: ALUMINUM  
FUMES, CAS # 7429-90-5, PEL: 5 MG/M3, TLV: 5 MG/M3. CARBON  
MONOXIDE, CAS # 630-08-0, PEL: 55 MG/M3, CEILING LIMIT: 229 MG/M3,  
TLV: 29 MG/M3. CHROMIUM, CAS # 7440-47-3, PEL: 1 MG/M3, TLV: 0.5  
MG/M3. CHROMIUM (CHROMATES), CAS # VARIES WITH COMPOUND, PEL  
CEILING: 0.1 MG/M3, TLV 0.05 MG/M3. (SARA III)

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

SARA Title III Information:N/P. TRANSPORT INFO (CONT): COBALT  
FUME (CO), CAS # 7440-48-4, PEL: 0.1 MG/M3, TLV: 0.05 MG/M3.  
COPPER FUME (CU), CAS # 7440-50-8, PEL: 0.1 MG/M3, TLV: 0.05 MG/M3.  
IRON OXIDE FUME (AS FE), CAS # 1309-37-1, PEL: 10 MG/M3, TLV: 5  
MG/M3. MANGANESE FUME (MN), CAS # 7439-96-5, PEL CEILING: 5 MG/M3,  
TLV: 1 MG/M3. MOLYBDENUM (MO) (SOLUABLE), CAS # 7439-98-7, PEL: 5  
MG/M3, TLV: 5 MG/M3. NIC  
K EL (NI) (SOLUABLE), CAS # 7440-02-0,  
PEL: 0.5 MG/M3, TLV: 0.1 MG/M3. TUNSTEN (W) (SOLUABLE), CAS #  
7440-33-7, PEL: 1 MG/M3, STEL: 3 MG/M3, TLV: 1 MG/M3. NITROGEN  
DIOXIDE, PEL CEILING: 9 MG/M3, TLV: 5.6 MG/M3. (FEDERAL REGS)  
Federal Regulatory Information:N/P. SARA III (CONT): OZONE,  
CAS # 10028-15-6, PEL: 0.2 MG/M3, STEL: 0.6 MG/M3, TLV CEILING: 0.2  
MG/M3. PHOSGENE, CAS # 75-44-5, PEL: 0.4 MG/M3, TLV: 0.4 MG/M3.  
THE LIMIT FOR WELDING FUMES NOT OTHERWISE CLASS  
IFIED IS 5 MG/M3.  
SOME ELEMENTS OR COMPOUNDS WILL EXCEED THEIR PEL'S / TLV'S BEFORE  
THE TOTAL FUMES EXCEED 5 MG/M3.

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

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