

**MARMON/KEYSTONE CORP. -- NICKEL BASED ALLOY STEEL;ALLOYS
200,200,600,800 SERIES -- 9510-00D003416**

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

Product ID:NICKEL BASED ALLOY STEEL;ALLOYS 200,200,600,800 SERIES

MSDS Date:01/01/1995

FSC:9510

NIIN:00D003416

MSDS Number: BWGPX

=== Responsible Party ===

Company Name:MARMON/KEYSTONE CORP.

Box:992

City:BUTLER

State:PA

ZIP:16001

Country:US

Info Phone Num:412-283-3000

Emergency Phone Num:412-283-3000

CAGE:3A044

=== Contractor Identification ===

Company Name:MARMON/KEYSTONE CORP

Box:City:BUTLER

State:PA

ZIP:16001

Country:US

Phone:412-283-4500

CAGE:3A044

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

Ingred Name:NIOBIUM (ALSO CALLED COLUMBIUM)

CAS:7440-03-1

Fraction by Wt: 0-5%

Other REC Limits:NONE RECOMMENDED

Ingred Name:SILICON

CAS:7440-21-3

RTECS #:VW0400000

Fraction by Wt: 0-1%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:15 MG/M3 TDUST

ACGIH TLV:10 MG/M3 TDUST; 9394

Ingred Name:TANTALUM

CAS:7440-25-7

RTECS #:WW5505000

Fraction by Wt: 0-2%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:5 MG/M3

ACGIH TLV:5 MG/M3; DUST; 9394

Ingred Name:TITANIUM,

CAS:7440-32-6

RTECS #:XR1700000

Fraction by Wt: 0-5%

Other REC Limits:NONE RECOMMENDED

Ingred Name:TUNGSTEN,AS W,SOLUBLE COMPOUNDS.
CAS:7440-33-7
RTECS #:YO7175000
Fraction by Wt: 0-5%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:NOE ESTABLISHED
ACGIH TLV:1 MG/M3/3 STEL;9394

Ingred Name:YTTRIUM
CAS:7440-65-5
RTECS #:ZG2980000
Fraction by Wt: 0-1%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3; 9394

Ingred Name:ALUMINUM (SARA III)
CAS:7429-90-5
RTECS #:BD0330000
Fraction by Wt: 0-5%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:15 MG/M3 DUST
ACGIH TLV:10 MG/M3 DUST; 9394

Ingred Name:CHROMIUM (SARA III)
CAS:7440-47-3
RTECS #:GB4200000
Fraction by Wt: .1-48%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3; 9394
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:COBALT (SARA III),DUST AND FUME
CAS:7440-48-4
RTECS #:GF8750000
Fraction by Wt: 0-15%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.05 MG/M3;DUST 9394

Ingred Name:COPPER (SARA III)
CAS:7440-50-8
RTECS #:GL5325000
Fraction by Wt: 0-68%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:0.1MG/M3 FUME/1 DUST
ACGIH TLV:0.2 MG/M3 FUME; 9394
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:IRON OXIDE FUME
CAS:1309-37-1
RTECS #:NO7400000
Fraction by Wt: <5%

Other REC Limits:NONE RECOMMENDED
OSHA PEL:10 MG/M3 (FE)
ACGIH TLV:5MG/M3 (FE) FUME, B2; 94

Ingred Name:MANGANESE (SARA III)
CAS:7439-96-5
RTECS #:009275000
Fraction by Wt: <1-5%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:C 5 MG/M3 DUST
ACGIH TLV:5 MG/M3 DUST 9394

Ingred Name:MOLYBDENUM (INSOLUBLE COMPOUNDS)
CAS:7439-98-7
RTECS #:QA4680000
Fraction by Wt: 0-10%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:15 MG/M3 TDUST
ACGIH TLV:10 MG/M3; 9394

Ingred Name:NICKEL (SARA III)
CAS:7440-02-0
RTECS #:QR5950000
Fraction by Wt: .1-99%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3; 9394

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

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO
Health Hazards Acute and Chronic:HAZARD IS FROM FUMES GENERATED DURING
OPERATIONS INVOLVING HEATING.INHAL:MAY IRRITATE RESPIRATORY
TRACT.METAL FUME FEVER.CHRONIC:MAY CAUSE SIDEROSIS (IRON DEPOSITED
IN THE LUNGS), CANCER (CR, NI) .
Explanation of Carcinogenicity:NICKEL AND CHROMIUM COMPOUNDS ARE LISTED
BY IARC AND NTP.
Effects of Overexposure:INHAL:METAL FUME FEVER (METALLIC TASTE IN
MOUTH, DRY THROAT, CHILLS, FEVER), SENSITIZATION (NI, CR) .
Medical Cond Aggravated by Exposure:PERSONS WITH PRE-EXISTING
RESPIRATORY AILMENTS MAY BE AT INCREASED RISK FROM EXPOSURE.

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

First Aid:SKIN:REMOVE CONTAMINATED CLOTHING;WASH WITH SOAP AND
WATER.EYES:FLUSH WITH WATER FOR 15 MINUTES.INHAL:REMOVE TO FRESH
AIR.GIVE OXYGEN OR ARTIFICIAL RESPIRATION IF NEEDED.INGEST:DO NOT
INDUCE VOMITING. GET PROMPT QUALIFIED MEDICAL ATTENTION.

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

Flash Point:NONE
Extinguishing Media:DRY CHEMICAL, CARBON DIOXIDE, FOAM.DO NOT USE WATER
ON MOLTEN METAL.
Fire Fighting Procedures:USE A SELF-CONTAINED BREATHING APPARATUS AND
FULL PROTECTIVE EQUIPMENT.

Unusual Fire/Explosion Hazard:THE FINELY DISPURSED DUST(FINES) FROM
THIS PRODUCT IS A FIRE OR EXPLOSION HAZARD IN THE PRESENCE OF
SOURCES OF IGNITION.

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

Spill Release Procedures:SWEEP OR VACUUM FINES;DO NOT CREATE DUST;PLACE
IN A DRY CONTAINER FOR DISPOSAL.
Neutralizing Agent:NOT APPLICABLE.

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

Handling and Storage Precautions:STORE IN A COOL, DRY, WELL-VENTILATED
PLACE.KEEP CONTAINER CLOSED WHEN NOT IN USE.KEEP AWAY FROM HIGH
HEAT AND INCOMPATIBLE MATERIALS.
Other Precautions:USE PROPER PROTECTIVE AND RESPIRATORY EQUIPMENT WHEN
WELDING.

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

Respiratory Protection:WHERE ENVIRONMENTAL CONTROLS ARE LACKING OR IN
ENCLOSED SPACES USE A NIOSH/MSHA APPROVED RESPIRATOR FOR
DUST/FUMES/MISTS.
Ventilation:FOR WELDING OPERATIONS,USE LOCAL VENTILATION AT THE
WORKSITE;MECHANICAL(GENERAL) VENTILATION TO MAINTAIN TLV/PEL.
Protective Gloves:AS REQUIRED WHEN WELDING
Eye Protection:AS REQUIRED WHEN WELDING
Other Protective Equipment:AS REQUIRED WHEN WELDING
Work Hygienic Practices:USE REASONABLE CARE IN HANDLING THIS
PRODUCT.WASH HANDS AFTER USE AND BEFORE EATING.
Supplemental Safety and Health
NONE

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

HCC:N1
Melt/Freeze Pt:M.P/F.P Text:2300F,1260C
Spec Gravity:7
Solubility in Water:INSOLUBLE
Appearance and Odor:PIPE;GRAY;ODORLESS
Percent Volatiles by Volume:NIL

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

Stability Indicator/Materials to Avoid:YES
STRONG ACIDS(FORMS H*2 GAS).
Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.
Hazardous Decomposition Products:OXIDES OF IRON AND METALS USED IN
ALLOYING.

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

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

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