

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

Product ID:G192, WELDING POWDER, METAL

MSDS Date:09/18/1996

FSC:3439

NIIN:01-211-6522

Status Code:A

MSDS Number: CLKRG

=== Responsible Party ===

Company Name:DYNAMET INC. POWDER PRODUCTS DIV.

Address:600 MAYER STREET

City:BRIDGEVILLE

State:PA

ZIP:15017-2777

Country:US

Info Phone Num:412-257-5102

Emergency Phone Num:412 257-5102

Preparer's Nam

e:A. J. GREGUS

CAGE:0R811

=== Contractor Identification ===

Company Name:CARPENTER POWDER PRODUCTS INC

Address:600 MAYER STREET

Box:City:BRIDGEVILLE

State:PA

ZIP:15017-2777

Country:US

Phone:0000000000000000

CAGE:UO686

Company Name:DYNAMET INC. POWDER PRODUCTS DIV.

Address:600 MAYER STREET

Box:City:BRIDGEVILLE

State:PA

ZIP:15017-2777

Country:US

Phone:412-257-5102

CAGE:0R811

Company Name:PERFORMANCE ALLOYS

Address:1212 HIGHLAND AVENUE

Box:City:MANHATTAN BEACH

State:CA

ZIP:90266

Country:US

Phone:310-

546-8459
Contract Num:SP0413-01-W-F056
CAGE:0A4S7

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

Ingred Name:ALUMINUM POWDER
CAS:7429-90-5
RTECS #:BD0330000
Minumum % Wt:0.
Maxumum % Wt:3.
OSHA PEL:15 MG/M3
ACGIH TLV:10 MG/M3

Ingred Name:BORON OXIDE
CAS:1303-86-2
RTECS #:ED7900000
Minumum % Wt:0.
Maxumum % Wt:2.
OSHA PEL:15 MG/M3
ACGIH TLV:10 MG/M3

Ingred Name:COBALT
CAS:7440-48-4
RTECS #:GF8750000
Minumum % Wt:0.
Maxumum % Wt:50.
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.02 MG/M3

Ingred Name:CHROMIUM
CAS:7440-47-3
RTECS #:GB4200000
Minumum % Wt:0.
Maxumum % Wt:25.
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:COPPER
CAS:7440-50-8
RTECS #:GL5325000
Minumum % Wt:0.
Maxumum % Wt:1.
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:IRON OXIDE (IRON WELDING FUMES)
CAS:1309-37-1
RTECS #:NO7400000
Minumum % Wt:0.
Maxumum % Wt:90.
OSHA PEL:10 MG/M3
ACGIH TLV:5 MG/M3;2 PPM

AND FUMES)
CAS:7439-96-5
RTECS #:OO9275000
Minumum % Wt:0.
Maxumum % Wt:8.
OSHA PEL:C5 MG/M3
ACGIH TLV:5 MG/M3

Ingred Name:MOLYBDENUM
CAS:7439-98-7
RTECS #:QA4680000
Minumum % Wt:0.
Maxumum % Wt:10.
ACGIH TLV:10 MG/M3

Ingred Name:NICKEL
CAS:7440-02-0
RTECS #:QR5950000
Minumum % Wt:0.
Maxumum % Wt:80.
OSHA PEL:1 MG/M3
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

Ingred Name:VANADIUM OXIDE
CAS:1314-62-1
RTECS #:YW2450000
Minumum % Wt:0.
Maxumum % Wt:12.
OSHA PEL:C0.5 MG/M3
ACGIH TLV:0.05 MG/M3
EPA
Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:TANTALUM (DUST)
CAS:7440-25-7
RTECS #:WW5505000
= Wt:.2
OSHA PEL:5 MG/M3
ACGIH TLV:5 MG/M3

Ingred Name:TITANIUM OXIDE
CAS:13463-67-7
RTECS #:XR2275000
Minumum % Wt:0.
Maxumum % Wt:5.
OSHA PEL:15 MG/M3
ACGIH TLV:10 MG/M3

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

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO
Health Hazards Acute and Chronic:NO TOXIC EFFECTS WOULD BE EXPECTED
FROM ITS INERT SOLID FORM. PR

PROLONGED, REPEATED EXPOSURE TO FUMES OR DUSTS, GENERATED DURING HEATING, CUTTING, BRAZING OR WELDING MAY CAUSE ADVERSE HEALTH EFFECTS DUE TO SOME OF THE CONSTITUENTS MENTIONED IN THE FORMULA OR TYPICAL ANALYSIS. SOME CONSTITUENTS POSE MORE POTENTIAL HAZARDS THAN OTHERS DEPENDING UPON THEIR INHERENT TOXICITY AND CONCENTRATIONS.

Effects of Overexposure: INHALATION, SKIN CONTACT. NO TOXIC EFFECTS WOULD BE EXPECTED FROM ITS INERT SOLID FORM. PROLONGED, REPEATED EXPOSURE TO FUMES OR DUSTS, GENERATED DURING HEATING, CUTTING, BRAZING OR WELDING MAY CAUSE ADVERSE HEALTH EFFECTS DUE TO SOME OF THE CONSTITUENTS MENTIONED IN THE FORMULA OR TYPICAL ANALYSIS. SOME CONSTITUENTS POSE MORE POTENTIAL HAZARDS THAN OTHERS DEPENDING UPON THEIR INHERENT TOXICITY AND CONCENTRATIONS.

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

First Aid: INHALATION: IN CASE OF OVEREXPOSURE, IMMEDIATELY MOVE PERSON FROM CONTAMINATED AIR TO FRESH AIR AT ONCE. GIVE ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED, OR OXYGEN IF NECESSARY. GET MEDICAL ATTENTION IF NECESSARY.

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

Extinguishing Media: NO FIRE OR EXPLOSION HAZARDS. USE FIRE EXTINGUISHER SUITABLE FOR SURROUNDING FIRES.

Unusual Fire/Explosion Hazard: NO FIRE OR EXPLOSION HAZARDS.

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

Spill Release Procedures: ACTION TO TAKE FOR SPILLS: NOT APPLICABLE.

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

Handling and Storage Precautions: NO SPECIAL HANDLING IS REQUIRED IN ITS INERT SOLID FORM. USE DUST MASK WHEN HANDLING IN ITS POWDER FORM. RECOMMENDED THAT A PROPERLY FITTED, NIOSH APPROVED, DUST FUME RESPIRATOR BE WORN DURING WELDING OR BURNING WHEN FUMES EXCEED TLV OR OTHER RECOMMENDED LIMITS IAW OSHA STANDARD (29 CFR 1910.134).

Other Precautions: DURING WELDING, PRECAUTIONS SHOULD BE TAKEN FOR AIRB

ORNE CONTAMINANTS AND NOXIOUS GASES THAT MAY ORIGINATE FROM COMPONENTS OF THE WELDING ROD. WHEN HEATED FOR HOT DEFORMATION, PRECAUTIONS SHOULD BE TAKEN TO PREVENT BURNS.

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

Respiratory Protection:NO SPECIAL HANDLING IS REQUIRED IN ITS INERT SOLID FORM. USE DUST MASK WHEN HANDLING ITS POWDER FORM. IT IS RECOMMENDED THAT A PROPERLY FITTED, NIOSH APPROVED, DUST FUME RESPIRATOR BE WORN DURING WELDING OR BURNING WHEN FUMES EXCEED TLV OR OTHER RECOMMENDED LIMITS IN ACCORDANCE WITH OSHA RESPIRATORY PROTECTION STANDARD 29CFR 1910.134.

Ventilation:USE OF EXHAUST SYSTEMS ARE SUGGESTED FOR ABRASIVE CUTTING, GRINDING, WELDING, AND BURNING.

Protective Gloves:GLOVES SHOULD BE WORN IN CASES WHERE SHARP EDGES, SLIVERS OR BURRS MAY EXIT.

Eye Protection:SAFETY GLASSES RECOMMENDED WHEN MACHING OR METAL REMOVAL OPERATIONS ARE DONE.

Work Hygienic Practices:TAKE ALL PRECAUTIONS NECESSARY DURING WELDING.

Supplemental Safety and Health

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

HCC:N1

Boiling Pt.=2760.C, 5000.F

Appearance and Odor:ODORLESS SOLID W/METALLIC LUSTRE; SHEET, STRIP, BAR, ROD, BILLET, SHAPES,POWDER

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

Stability Indicator/Materials to Avoid:YES

NONE

Stability Condition to Avoid:STABLE

Hazardous Decomposition Products:METAL FUMES AND CERTAIN NOXIOUS GASES SUCH AS CO, MAY BE PRODUCED DURING WELDING OR BURNING OPERATIONS.

Conditions to Avoid Polymerization:WILL NOT OCCUR.

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

Waste Disposal Methods:NOT APPLICABLE (IT IS RECOMMENDED ALL SCRAP GENERATED BE RECLAIMED AND SUBSEQUENTLY RECYCLED).

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