

METCO INC, SUB OF THE PERKIN-ELMER CORP -- METCO 201B-NS-1 ZIRCONIUM OXIDE POWDER  
-- 3439-01-391-8640

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

Product ID:METCO 201B-NS-1 ZIRCONIUM OXIDE POWDER  
MSDS Date:05/05/1993  
FSC:3439  
NIIN:01-391-8640  
MSDS Number: BYSHV  
=== Responsible Party ===  
Company Name:METCO INC, SUB OF THE PERKIN-ELMER CORP  
Address:1101 PROSPECT AVENUE  
City:WESTBURY  
State:NY  
ZIP:11590-2724  
C  
Country:US  
Info Phone Num:516-334-1300  
Emergency Phone Num:202-483-7616/800-424-9300(CHEMTREC)  
CAGE:39918  
=== Contractor Identification ===  
Company Name:METCO INC, SUB OF THE PERKIN-ELMER CORP  
Address:1101 PROSPECT AVENUE  
Box:City:WESTBURY  
State:NY  
ZIP:11590-2724  
Country:US  
Phone:516-334-1300  
CAGE:39918

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

Ingred Name:ZIRCONIUM OXIDE  
CAS:1314-23-4  
RTECS #:ZH8800000  
Fraction by Wt: 91.5%  
Other REC Limits:NONE RECOMMENDED

Ingred N

ame:CALCIUM CARBONATE (MARBLE) (LIMESTONE)

CAS:1317-65-3

RTECS #:EV9580000

Fraction by Wt: 5.0%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:15 MG/M3 TDUST

ACGIH TLV:10 MG/M3 TDUST; 9495

Ingred Name:ORGANIC BINDER

Fraction by Wt: 1.0%

Other REC Limits:NONE RECOMMENDED

Ingred Name:HAFNIUM OXIDE

CAS:12055-23-1

Fraction by Wt: 2.0%

Other REC Limits:NONE RECOMMENDED

Ingred Name:SILICON (II) OXIDE

CAS:10097-28-6

Fraction by Wt: 0.5%

Other REC Limits:NONE RECOMMENDED

==== Hazards I  
dentification =====

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.

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

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

Health Hazards Acute and Chronic:ZIRCONIUM OXIDE:INHAL/SKIN

HAZ.NUISANCE DUST.IRRIT RESP TRACT.SKIN IRRIT,SKIN

GRANULOMAS.CALCIUM CARBONATE:INHAL/EYE HAZ.LUNG/EYE IRRIT.ORG

BINER:MILDLY TOXIC BY INGEST.GENERAL PUROSE FOOD ADDITIVE.HA FNIUM

OXIDE:SKIN/EYE/INHAL HAZ.RESP TRACT IRRIT,SKIN/

EYE MILD

IRRIT.SILICON OXIDE:INHAL/EYE HAZ.RESP TRACT IRRIT,(SUPPL)

Effects of Overexposure:POSSIBLE EYE IRRIT, POSSIBLE SKIN IRRIT, INHAL

IRRIT, POSSIBLE INGEST IRRIT.

Medical Cond Aggravated by Exposure:CONSULT PHYSICIAN. TARGET

ORGANS:RESP TRACT, SKIN, LUNGS, EYES, GASTROINTESTINAL TRACT.

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

First Aid:EYE:FLUSH W/WATER.IF IRRIT PERSISTS CONSULT PHYSICIAN.

SKIN:WASH W/SOAP/WATER. INHAL:EXPOSE TO FRESH AIR.CONSU

LT PHYSICIAN

IF IRRIT OR RESPIRATORY DISTRESS PERSISTS. INGEST:CONSULT  
PHYSICIAN.

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

Extinguishing Media:NON-FLAMMABLE.

Fire Fighting Procedures:NONE.

Unusual Fire/Explosion Hazard:IF IGNITED, CALCIUM CARBONATE MAY PRODUCE  
CARBON MONOXIDE/CARBON DIOXIDE.

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

Spill Release Procedures:VACUUM LOOSE POWDER ONLY W/VACUUMS EQUIPPED  
W/HEPA FILTRATION. VAC

UUMS APPROPRIATE FOR USE W/METALLIC DUSTS

SHOULD BE UTILIZED. WIPE AREA CLEAN. DO NOT USE WAER FOR CLEAN UP  
OPERATIONS. DO NOT DRY SWE EP. AVOID GENERATING AIRBORNE DUST.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Precautions:STORE AWAY FROM INCOMPATIBLES.STORE  
PROD CONTNRS IN WELL-VENTI,CLEAN,COOL,DRY AREA.STORE IN MANNER TO  
MINIMIZE PUNCTURES/BREAKAGE OF CNTNRS.

Other Precautions:

AVOID INGEST/INHAL/EXCESSIVE SKIN CONTACT.AVOID

CONTACT OF POWDER W/WATER/OXIDIZERS.GOGG:COMBUST SPRAY

SHADE#5,PLASMA SPRAY UP TO 40KW SHADE#9,40-60KW SHADE#10,>60KW

SHADE#11.GOGG MAY BE APPROPRIATE T O AVOID EYE IRRIT DURING OTHER  
PROD HNDL

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

Respiratory Protection:RESPIRATOR APPROVED BY NIOSH W/FILTER CARTRIDGES  
APPROVED FOR DUST/FUME/MISTS SHOULD BE WORN AT ALL TIMES DURING  
THERMAL SPRAY PROCESS TO PRO

TECT OPERATOR FROM EXPO TO

DUST/FUMES.RESP MAY ALSO BE WORN WHEN PRODUCT HDNGL GENERATES  
DUST.

Ventilation:PRODUCT SHOULD BE USED W/APPROPRIATE LOCAL EXHAUST  
VENTILATION PROVIDED.

Protective Gloves:ALUMINIZED GLOVE-PLASMA SPRAY,RUBB-OTHER

Eye Protection:(SEE OTHER PRECAUTION SECITON OF MSDS.)

Other Protective Equipment:EAR PROT-EXCESS NOISE LEVELS.AL APRON-PLASMA  
SPRAY PROCESS.OTH APPRO PROT CLOTH AS NECESSARY-PROD HDLG EXCESS  
SKIN(SUPP)

Work Hygienic Practices:WASH HANDS AF

TER HANLDING.

Supplemental Safety and Health

HAZ DECOMP PROD:POWDER. ORGBINDER EMIT TOX NA2O FUMES WHEN HEAT TO  
DECOMP. HEA HAZ:SILICOSIS,PULM FIB(IBROTIC CHANGES ON XRAY  
EXAM,SHORT OF BREATH,COUGH,DECR CHEST EXPAN,LESS WORK CAP,INCRE  
SUSC TO TUB ERCULOSIS)CONJ,EYE IRRIT. OTH PROT EQPT:CONTACT,EYEWASH  
STATION,WASH FACI.

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

HCC:N1

Melt/Freeze Pt:M.P/F.P Text:4500F,2482C

Spec Gravity:2.1

Solubility in Water:NEGATIVE

Appearance and Odor:POWDER, NO ODOR.

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

Stability Indicator/Materials to Avoid:YES

OXIDIZERS,ACIDS,SULFUR,NI(NO3)2,COMBUST.SODIUM OXIDE IN ORG BINER VERY  
REACTIVE-COMBINES VIOL W/WATER TO FORM NAOH.

Stability Condition to Avoid:NONE SPECIFIED BY MANUFACTURER.

Hazardous Decomposition Products:OZONE & NITRIC OXIDE ARE FORMED BY  
PLASMA FLAME(SIMILAR TO WELDING FUMES).THIS ACTION IS INDEPENDENT  
OF CERAMIC (SUPP)

=====

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

Waste Disposal Methods:EMPTY PRODUCT CNTNRS/PROD WASTE/CLEANING MEDIA  
SHOULD BE STORED & DISPOSE OF ACCORDING TO APPROPRIATE  
LOC/STATE/FED REGULATORY GUIDELINES.

Disclaimer (provided with this information by the compiling agencies):  
This information is formulated for use by elements of the Department  
of Defense. The United States of America in no manner whatsoever,  
expressly or implied, warrants this information to be a  
ccurate and  
disclaims all liability for its use. Any person utilizing this  
document should seek competent professional advice to verify and  
assume responsibility for the suitability of this information to their  
particular situation.