

MATERIAL SAFETY DATA SHEET

For R&D use only. Not for drug, household or other uses.

Click <http://www.lookchem.com/cas-120/12055-23-1.html> for suppliers of this product.

Composition/Information on Ingredient

Cas:
12055-23-1
Code:
M

RTECS:

Code:
X

Name:
HAFNIUM OXIDE

Other REC Limits:
NONE RECOMMENDED

OSHA PEL:
NOT ESTABLISHED
Code:
M

OSHA STEL:

Code:

ACGIH TLV:
NOT ESTABLISHED
Code:
M

ACGIHSTEL:
N/P
Code:

Control Measures

Respiratory Protection:
A RESPIRATOR APPROVED BY NIOSH WITH FILTER CARTRIDGES APPROVED FOR DUST/FUMES/MISTS SHOULD BE WORN AT ALL TIMES DURING THERMAL SPRAY PROCESS TO PROTECT OPERATOR. RESPIRATORS MAY ALSO BE WORN WHEN PROD UCT HANDLING GENERATES DUST.

Ventilation:
USE ONLY WITH ADEQUATE LOCAL EXHAUST VENTILATION.

Protective Gloves:
ALUMINIZED GLOVES DURING PROCESSING

Eye Protection:
CHEMICAL WORKERS GOGGLES

Other Protective Equipment:
Equipment HEARING PROTECTION. ALUMINIZED APRONS DURING PROCESSING &OTHER APPROPROPRIATE PROTECTIVE CLOTHING.

Work Hygienic Practices:
WASH HANDS THOROUGHLY WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES.

Supplemental Safety and Health:
EYE WASH STATIONS ARE RECOMMENDED.

Health Hazards Data

LD50LC50Mixture:
NONE SPECIFIED BY MANUFACTURER.

Route Of Entry Inds - Inhalation:
YES

Skin:
YES

Ingestion:
YES

Carcinogenicity Inds - NTP:
YES

IARC:
YES

OSHA:
NO

Health Hazards Acute And Chronic:
INHALATION MAY CAUSE PNEUMOCONIOSIS, MUCOUS MEMBRANE IRRITATION, ULCERATION, LUNG CANCER, NASAL CANCER, NEUROLOGICAL IMPAIRMENT, METAL FUME FEVER. SKIN CONTACT MAY CAUSE IRRITATION, DERMATITIS. EYE CO NTACT MAY CAUSE IRRITATION. MAY CAUSE BRONCHOGENIC, LUNG AND STOMACH CANCERS.

Explanation Of Carcinogenicity:
CONTAINS NICKEL AND CHROMIUM BELIEVED TO BE CARCINOGENIC BY NTP AND IARC.

Signs And Symptions Of Overexposure:
MAY CAUSE EYE IRRITATION, SKIN IRRITATION, DERMATITIS, RESPIRATORY TRACT IRRITATION, PNEUMOCONIOSIS, POSSIBLE GASTROINTESTINAL IRRITATION.

Medical Cond Aggravated By Exposure:
NONE SPECIFIED BY MANUFACTURER.

First Aid:
EYES: FLUSH WITH SUFFICIENT AMOUNTS OF WATER. IF IRRITATION PERSISTS, CONSULT A PHYSICIAN. SKIN: IF IRRITATION OCCURS, WASH WITH SOAP AND WATER TO REMOVE POWDER. INHALATION: EXPOSE TO FRESH AIR. CONSU LT PHYSICIAN IF IRRITATION OR RESPIRATORY DISTRESS PERSISTS. INGESTION: CONSULT A PHYSICIAN.

Spill Release Procedures:
VACUUM LOOSE POWDER ONLY WITH VACUUMS EQUIPPED WITH HEPA FILTRATION. VACUUMS APPROPRIATE FOR USE WITH ALUMINUM METALLIC SHOULD BE UTILIZED. WIPE THE AREA CLEAN. DO NOT USE WATER FOR CLEAN UP OPERATION S. DO NOT SWEEP. AVOID GENERATING AIRBORNE DUST.

Neutralizing Agent:
NONE SPECIFIED BY MANUFACTURER.

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

Handling And Storage Precautions:
STORE AWAY FROM INCOMPATIBLES. STORE PRODUCT CONTAINERS IN WELL VENTILATED, CLEAN, COOL AND DRY AREA. AVOID PHYSICAL DAMAGE.

Other Precautions:
3 AVOID CONTACT OF MATERIAL WITH WATER OR OXIDIZERS . DO NOT INGEST. AVOID INHALATION, PROLONGED OR REPEATED SKIN CONTACT OR CONTACT WITH EYES.

Fire and Explosion Hazard Information

Flash Point Method:
N/P

Flash Point:

Flash Point Text:
NONE

Autoignition Temp:

Autoignition Temp Text:
N/A

Lower Limits:

Upper Limits:

Extinguishing Media:
N/P

Fire Fighting Procedures:
N/P

Unusual Fire/Explosion Hazard:
N/P

Physical/Chemical Properties

HCC:

NRC/State LIC No:

Net Prop WT For Ammo:

Boiling Point:

B.P. Text:
N/A

Melt /Freeze Pt:

M.P/F.P Text:
N/A

Decomp Temp:

Decomp Text:
N/A

Vapor Pres:
N/P

Vapor Density:
N/P

Volatile Org Content %:

Spec Gravity:
N/P

VOC Pounds/Gallon:

PH: N/P

VOC Grams/Liter:

Viscosity:
N/P

Evaporation Rate & Reference:
N/P

Solubility in Water:
N/P

Appearance and Odor:

Percent Volatiles by Volume:
N/P

Corrosion Rate:
N/P

Reactivity Data

Stability Indicator:
N/P

Stability Condition To Avoid:
N/P

Materials To Avoid:
N/P

Hazardous Decomposition Products:
OZONE AND NITRIC OXIDE ARE FORMED BY PLASMA FLAME. THIS ACTION IS INDEPENDENT OF METAL POWDER.

Hazardous Polymerization Indicator:
NO

Conditions To Avoid Polymerization:
NONE. WILL NOT OCCUR.

Toxicological Information

Information:N/P

MSDS Transport Information

Information:N/P

Regulatory Information

Sara Title III Information: N/P

Federal Regulatory Information: N/P

State Regulatory Information: N/P

Other Information

Other Information:N/P