



## (HAZARDS IDENTIFICATION - Continued)

## Potential Health Effects

This product has not been tested as a whole for health effects. The general information reported here is based on the health effects of the individual components of this mixture.

## &gt;&gt;Inorganic Metal Oxide

May cause respiratory tract, eyes, and skin irritation. No adverse effects expected if ingested. May cause drying of the skin.

## &gt;&gt;Inorganic Metal Salt

Causes respiratory tract, eyes, and skin irritation. May be harmful if swallowed. Inhalation may cause cyanosis.

## Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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FIRST AID MEASURES  
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## First Aid

## INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

## SKIN CONTACT

In case of contact, immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse.

## EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

## INGESTION

If swallowed, do not induce vomiting. DO NOT GIVE ANYTHING TO DRINK. Call a physician immediately. Never give anything by mouth to an unconscious person.

## Notes to Physicians

Treat symptomatically as required by the condition of the patient.

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FIRE FIGHTING MEASURES  
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## Flammable Properties

Flash Point : None  
Autoignition : None  
Flammable limits in Air, % by Volume  
LEL : None  
UEL : None

## Extinguishing Media

Use media appropriate for surrounding material.

## Fire Fighting Instructions

This material is not flammable. Use normal firefighting procedures for the area.

UNUSUAL FIRE AND EXPLOSION HAZARDS.  
No special precautions are necessary.

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ACCIDENTAL RELEASE MEASURES  
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## Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

## Initial Containment

Follow applicable Federal, State/Provincial and Local laws/regulations.

## Spill Clean Up

Soak up with sawdust, sand, oil dry or other absorbent material. Dispose of in an approved container. Comply with Federal, State, and local regulations for reporting releases.

If material becomes dry, wet before removal.

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HANDLING AND STORAGE  
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## Handling (Personnel)

Avoid contact with eyes, skin or clothing. Use with sufficient ventilation to keep employee exposure below recommended limits. Wash thoroughly after handling. Wash clothing after use.

## (HANDLING AND STORAGE - Continued)

## Handling (Physical Aspects)

Keep container tightly closed.

## Storage

Store in original container. Store above 32 F (0 C)

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EXPOSURE CONTROLS/PERSONAL PROTECTION  
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## Engineering Controls

Use only with adequate ventilation.

## Personal Protective Equipment

## RESPIRATORY PROTECTION

No respiratory protection is required when this material is handled under proper ventilation, such as a wet bench or fume hood. If proper ventilation is not available, use a NIOSH approved full-face respirator with canisters or cartridges specifically approved for ammonia. If material becomes dry, add a dust/mist prefilter. Whenever cartridges or canister respirators are used, ensure the frequent changing of the filter element. Use a supplied air respirator when in doubt of the atmospheric concentration. Consult 29 CFR 1910.134 regarding use of respirators.

## PROTECTIVE CLOTHING

Take all precautions to prevent skin contact. Wear Nitrile, Neoprene or Latex clothing and gloves, and chemical resistant boots when there is a probability of liquid contact.

## EYE/FACE PROTECTION

Use chemical goggles, or wear goggles under a safety shield.

## Exposure Guidelines

## Applicable Exposure Limits

## Inorganic Metal Oxide

PEL (OSHA)	: 15 mg/m <sup>3</sup> , total dust, 8 Hr. TWA
	5 mg/m <sup>3</sup> , respirable dust, 8 Hr. TWA
AEL * (DuPont)	: None Established

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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PHYSICAL AND CHEMICAL PROPERTIES  
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## Physical Data

Boiling Point	: 212 F (100 C)
Vapor Pressure	: Not Available
Vapor Density	: >1 (Air=1.0)
Evaporation Rate	: Not Available
Solubility in Water	: Insoluble Solids
pH	: 3-5
Odor	: None.
Color	: Milky, White.
Specific Gravity	: 1.1-1.2 @ 25 C (77 F)
Form	: Slurry.

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STABILITY AND REACTIVITY  
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## Chemical Stability

Stable at normal temperatures and storage conditions.

## Incompatibility with Other Materials

None have been identified.

## Decomposition

None known.

## Polymerization

Will not normally occur.

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TOXICOLOGICAL INFORMATION  
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## Animal Data

Data for MicroPlanar(R) CMP3200X

No information available.

>>Inorganic Metal Oxide

## IRRITATION DATA

Eyes

Rabbit

Remarks: No irritation effect

Skin

Rabbit

Remarks: No irritation effect

CHRONIC EXPOSURE - CARCINOGEN

## (TOXICOLOGICAL INFORMATION - Continued)

Species: Rat  
Route of Application: Intrapleural  
Dose: 90 MG/KG

Result: Lungs, Thorax, or Respiration:Tumors.  
Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

Species: Rat  
Route of Application: Implant  
Dose: 200 MG/KG

Result: Tumorigenic:Tumors at site or application.

Tumorigenic:Neoplastic by RTECS criteria.

Species: Rat  
Route of Application: Implant  
Dose: 200 MG/KG

Result: Tumorigenic:Tumors at site or application.

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria.

>>Inorganic Metal Salt  
Oral rat LD50: 3671 mg/kg  
Intraperitoneal Rat LD50: 901 MG/KG  
Oral Mouse LD50: 3980 mg/kg  
Intraperitoneal Mouse LD50: 1587 MG/KG

## CHRONIC EXPOSURE - TERATOGEN

Species: Rat  
Dose: 1620 MG/KG  
Route of Application: Oral  
Exposure Time: (6-14D PREG)

Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Effects on Embryo or Fetus: Fetal death.

Specific Developmental Abnormalities: Craniofacial  
(including nose and tongue).

Species: Rat  
Dose: 1620 MG/KG  
Route of Application: Oral  
Exposure Time: (6-14D PREG)

Result: Specific Developmental Abnormalities:  
Musculoskeletal

Species: Rat  
Dose: 6480 MG/KG  
Route of Application: Oral  
Exposure Time: (6-14D PREG)

(TOXICOLOGICAL INFORMATION - Continued)

Result: Specific Developmental Abnormalities: Cardiovascular (circulatory) system.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 7740 MG/KG  
Route of Application: Oral  
Exposure Time: (1-22D PREG/21D POST)

Result: Effects on Newborn: Physical.

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ECOLOGICAL INFORMATION  
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Ecotoxicological Information

No information is available.

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DISPOSAL CONSIDERATIONS  
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Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

Incineration at a facility with proper Federal and State issued permits is the recommended method for disposal.

Container Disposal

Observe all label warnings. Empty containers may contain hazardous residue. Refer to applicable Local, State/Provincial, and Federal Regulations, as well as industry Standards.

Do not distribute, make available, or reuse empty containers except for storage and shipment of original product. Remove all hazardous product residue, and puncture or otherwise destroy empty containers before disposal. Consult 40 CFR, Parts 261 and 268 for guidance on disposal.

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TRANSPORTATION INFORMATION  
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Shipping Information

DOT/IMO/IATA  
Not Regulated.

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REGULATORY INFORMATION  
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## U.S. Federal Regulations

This product complies with TSCA inventory reporting requirements.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 Hazard Categories: Acute

313: See Composition/Information on Ingredients section of this msds.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION AND LIABILITY ACT)

Not reportable.

We recommend you contact local authorities to determine if there may be other local reporting requirements.

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OTHER INFORMATION  
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## NFPA, NPCA-HMIS

NPCA-HMIS Rating	
Health	: 1
Flammability	: 0
Reactivity	: 0

## Additional Information

Because the long-term human health effects from exposure to MICROPLANAR(R) CMP3200X have not been fully evaluated, exposure should be kept to the lowest level possible.

MicroPlanar(R) is a registered trademark of EKC Technology, Inc. licensed to DuPont Air Products Nanomaterials L.L.C.

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The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : DuPont AirProducts Nanomaterials L.L.C  
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# Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS