

**NUCREL[®] 0411HS resin**

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NUCREL[®] 0411HS resin
MSDS Number : 130000021579

Manufacturer : DuPont
1007 Market Street
Wilmington, DE 19898

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Potential Health Effects

Processing temperatures that exceed those described in Section 10 (Conditions to Avoid), may evolve fumes irritating the eyes, nose and throat., Exposure may result in reddening, tears and itching of the eyes and soreness in the nose and throat, together with coughing.

Eyes : Resin particles, like other inert materials, are mechanically irritating to eyes.

Ingestion : Is not considered a potential route of exposure.

Carcinogenicity

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
-----------	---------	---------------

**NUCREL® 0411HS resin**

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

Ethylene acid copolymer		>99%
-------------------------	--	------

SECTION 4. FIRST AID MEASURES

- Skin contact : The material is not likely to be hazardous by skin contact, but cleansing the skin after use is advisable. Cool skin rapidly with cold water after contact with molten material. Do not attempt to remove material from the skin. Obtain medical treatment for thermal burn. 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.
- Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
- Ingestion : Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES

- Flammable Properties
- Flash point : 335 - 365 °C (635 - 689 °F)
Method : ASTM D 1929
- Fire and Explosion Hazard : Material in pellet form may accumulate static charge when poured from one container to another.
- Suitable extinguishing media : Water, Foam, Dry chemical, Carbon dioxide (CO₂)
- Firefighting Instructions : Wear self-contained breathing apparatus and protective suit. The solid polymer can only be burned with difficulty. Evacuate personnel and keep upwind of fire. Grounding and elimination of the static charge is recommended.

**NUCREL[®] 0411HS resin**

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Spill Cleanup : Shovel or sweep up.

Accidental Release Measures : Do not discharge to streams, ponds, lakes or sewers.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Before using, read the product bulletin.

Storage : Store in a cool, dry place. Keep container closed to prevent contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Use sufficient ventilation to keep employee exposure below recommended limits. When hot processing this material, use local and/or general exhaust ventilation to maintain the concentration of vapors and fumes below exposure limits. Use static controls. Static charges can cause explosions in solvent and dust laden atmospheres. See Bulletin "Proper Use of Local Exhaust Ventilation During Processing of Plastics".

Personal protective equipment
Respiratory protection : A respiratory protection program that meets country requirements must be followed whenever workplace conditions warrant respirator use. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.
Consult the OSHA respiratory protection information located at 29CFR 1910.134.

Hand protection : Additional protection: Protective gloves

**NUCREL[®] 0411HS resin**

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

Eye protection : Wear safety glasses with side shields. Wear tightly fitting chemical splash goggles and face shield when possibility exists for eye and face contact due to spattering or splashing of molten material.

Skin and body protection : If there is a potential for contact with hot/molten material wear heat resistant clothing and footwear.

Exposure Guidelines

Exposure Limit Values

NUCREL[®] 0411HS resin

Dust (inhalable and respirable fraction)

TLV	(ACGIH)	10 mg/m ³
		TWA Inhalable particles.
		3 mg/m ³
		TWA Respirable particles.
PEL:	(OSHA)	5 mg/m ³
		TWA Respirable fraction.
		15 mg/m ³
		TWA Total dust.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : pellets
Color : clear
Odor : mild, like methacrylic acid
Water solubility : negligible

SECTION 10. STABILITY AND REACTIVITY

Stability : Stable at normal temperatures and storage conditions.

Conditions to avoid : Temperature > 325 °C (> 617 °F)

**NUCREL® 0411HS resin**

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

- Incompatibility : None reasonably foreseeable.
- Hazardous decomposition products : Decomposition is a function of both processing temperature and time at that temperature.
Decomposition can occur below the recommended processing temperature limit.
At temperatures above the "conditions to avoid" temperature, thermal decomposition of the resin becomes rapid.
Hazardous decomposition products: Carbon monoxide, Organic acids, Aldehydes, Alcohols
- Hazardous reactions : Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

- NUCREL® 0411HS resin
Further information : There is no data available for this product.
- Ethylene acid copolymer
Oral ALD : > 5,000 mg/kg , rat
- Repeated dose toxicity : Oral
rat
- No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

- Aquatic Toxicity
Ethylene acid copolymer : The substance is a polymer and is not expected to produce toxic effects.
- Additional ecological information : No data is available on the product itself. Toxicity is expected to be low based on insolubility in water.

**NUCREL® 0411HS resin**

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : Preferred options for disposal are recycling, incineration with energy recovery, and landfill. The high fuel value of this product makes incineration very desirable for material that cannot be recycled. Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial, and local regulations.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

TSCA Status : In compliance with TSCA Inventory requirements for commercial purposes.

SARA 313 Regulated Chemical(s) : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. 2-Ethylhexanoic acid

PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): None known.

NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): None known.



NUCREL[®] 0411HS resin

Version 2.3

Revision Date 03/13/2013

Ref. 130000021579

SECTION 16. OTHER INFORMATION

Restrictions for use : Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of the DuPont POLICY Regarding Medical Applications H-50103-3 and DuPont CAUTION Regarding Medical Applications H-50102-3.

NUCREL[®] is a Registered Trademark of E.I. du Pont de Nemours and Company.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.