

MATERIAL SAFETY DATA SHEET

HXTAL NYL-1 PART A.

Prepared January 1, 2008

SECTION 1: IDENTIFICATION.

PRODUCT NAME: HXTAL NYL—1, PART A.

CHEMICAL NAME: 4,4-Isopropylidenedicyclohexanol- epichlorohydrin.

CHEMICAL FAMILY: Liquid Epoxy Resin.

SECTION 2: PRODUCT/INGREDIENT, (Pr./In.)

PRODUCT: HXTAL NYL-1, PART A. 100%.

INGREDIENT: Epichlorohydrin. 1-30ppm.

SECTION 3: ACUTE TOXICITY DATA.

This Information complies with OSHA Hazard Communication Standard (29 CFR 1910.1200)

EYE CONTACT: Testing shows product is minimally irritating to eyes.

SKIN CONTACT: Testing shows product is slightly irritating to skin.

INHALATION: Product is not expected to irritate, nose, throat, or respiratory tract because of its low volatility.

Mists may present an inhalation hazard.

INGESTION: Testing demonstrates product is slightly toxic and may be harmful if swallowed.

SIGNS AND SYMPTOMS; Irritation as noted above.

AGGRAVATED MEDICAL CONDITIONS: Pre-existing skin, eye, and inhalation disorders may be aggravated by exposure to product.

HAZARD STATUS: HXTAL NYL-1 , PART A is not a hazardous material by OSHA Appendix A criteria,

HMIS: HEALTH: 1, FLAMMABILITY: 1, REACTIVITY: 0

SECTION 4: OCCUPATIONAL EXPOSURE LIMITS.

| | OSHA PEL/TWA PEL/CEILING | ACGIH TLV/TWA TLV/STEL |
|--------------------|-----------------------------|---------------------------|
| Product: | None Established | None Establishsd |
| Ingredient: | 5 ppm (Skin) | 2 ppm (Skin) |

SECTION 5: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush eyes with plenty of clean water for 15 minutes while holding eyelids open. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing and shoes. Wipe material from skin. Flush skin with cool water. Wash thoroughly with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather, including shoes, cannot be decontaminated and should be destroyed.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

INGESTION: Do not induce vomiting. If vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs. Get medical attention.

(NOTE TO PHYSICIAN): If more than 2 ml per Kg has been ingested and vomiting has not occurred, emesis should be induced with supervision, keep victim's head below hips to prevent aspiration of liquid. If symptoms such as convulsions, loss of gag reflex, or unconsciousness occur before emesis, gastric lavage using a cuffed endotracheal tube should be considered.

SECTION 6: SUPPLEMENTAL HEALTH INFORMATION.

Epichlorohydrin has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells. The International Agency for Research on Cancer (IARC) states that the evidence that Epichlorohydrin causes cancer in humans is inadequate.

SECTION 7: PHYSICAL DATA.

Appearance and odor: Colorless viscous liquid with faint mild odor.

Melting point: < 0°F

Vapor pressure at 20°C: Unknown

Specific Gravity: 1.09

Vapor density: Heavier than air

Boiling point: Unknown, >200°F

Solubility in water: negligible

Volatile fraction by weight: negligible

Evaporation: low, < 1, where rate for butyl acetate = 1.

SECTION 8: FIRE AND EXPLOSION HAZARDS.

Flash Point: 240°F (PMCC)

Flammability: Will not burn unless preheated.

Flammable limits: lower end tipper: Unknown

Extinguishing media: Water fog, foam, dry chemical, CO₂

Special fire fighting procedures: Do not enter confined fire space without wearing a positive pressure NIOSH approved self contained breathing apparatus and full bunker gear (helmet with face shield, bunker coat, gloves, and rubber boots). Cool containers with water.

Unusual fire and explosion hazards: None.

SECTION 9: REACTIVITY.

Stability: Stable.

Hazardous polymerization: Will not occur.

Conditions to avoid: Can react vigorously with strong oxidizing agents, strong Lewis or mineral acids, and strong mineral and organic bases, especially primary and secondary aliphatic amines. Uncontrolled reaction with strong acids may be violent. Reaction with some curing agents may evolve considerable heat.

Hazardous decomposition products: Carbon monoxide, aldehydes, and acids may form during combustion.

SECTION 10: EMPLOYEE PROTECTION.

EXPOSURE AVOIDANCE:

No person unfamiliar with the danger of chemical hazards and the contents of this MSDS should be permitted to use **HXTAL NYL-1 PART A**.

Splash resistant goggles should be worn to prevent all eye contact.

Gloves and other protective clothing should be worn to minimize skin contact.

Ventilation should be provided to control vapor concentration.

Eye wash equipment and safety showers should be provided.

SECTION 11: ENVIRONMENTAL PROTECTION.

SPILLS: Flammability - **HXTAL NYL-1, PART A** can burn if preheated, but it is not easy to ignite. Nevertheless, use caution when cleaning spills.

Large Spills: Wear a respirator and protective clothing as appropriate. Shut off source of spill if safe to do so. Dike and contain. Scoop up to storage/salvage containers. Soak up residue with dry absorbent materials such as clay or sand or other dry absorbents. Dispose of in compliance with all Federal, state, and local laws and regulations. Flush area with water to remove trace residues.

Small Spills: Take up with dry absorbent materials and dispose of in compliance with all Federal, state, and local laws and regulations.

Environmental Hazards: Keep out of surface waters, sewers and waterways entering or leading to surface waters. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Note: **HXTAL NYL-1 PART A** cure with **HXTAL NYL-1 PART B** is a highly inert solid material that can be discarded with other solid waste in ordinary refuse, if such disposal does not conflict with Federal, state, and local laws and regulations.

SECTION 12: SPECIAL PRECAUTIONS.

Keep **HXTAL NYL -1 PART A** in sturdy, well-sealed containers.

Store In a cool, dry place having adequate ventilation.

Keep away from flames and high temperatures.

Handle in accordance with the hazard potentials of **HXTAL NYL-1 PART B**, other epoxy curing agents, if any, and other auxiliary materials used with **HXTAL NYL-1 PART A**.

After each use, carefully wash with soap and water before eating, drinking, smoking, or using toilet facilities. Inadequately cleaned hands can carry material to eyes hours later.

Launder contaminated clothing before reuse. Leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.

SECTION 13: TRANSPORTATION.

HXTAL NYL-1 PART A is not a hazardous substance according to the US Department of Transportation regulations.

SECTION 14: LABEL STATEMENTS.

CAUTION - For Professional use only!

CAUTION - May cause irritation!

Avoid all contact with the eyes!

Avoid prolonged or repeated contact with the skin!

Avoid prolonged or repeated breathing of the vapors!

Wash thoroughly after handling. Inadequately washed hands can carry material to the eyes hours later!

Laundry contaminated clothing before reuse.

Contaminated leather articles cannot be decontaminated and should be destroyed to prevent reuse.

Keep **HXTAL NYL-1 PART A** away from children and everyone else not familiar with chemical hazards and the **HXTAL NYL-1 PART A** Material Safety Data Sheet.

SECTION 15: NOTICES.

NOTICE No. 1 - Information in this Material Safety Data Sheet is believed to be as complete and correct as present knowledge permits, however, the information and data are supplied without warranty of any kind as to accuracy and suitability. Users of **HXTAL NYL-1 PART A** must consider the contents of this MSDS only as a supplement to data and information they gather for themselves from testing and experience, from ongoing study of chemical safety literature, and from other sources. Users must independently determine the suitability and completeness of information from many sources of which this MSDS is only a small part. By such effort and means, they must assure safe use and disposal of **HXTAL NYL-1 PART A** so as to safeguard the safety, health, and property of themselves, their associates, and employees; their customers and clients and the general public. The manufacturer of **HXTAL NYL-1 PART A** assumes no responsibility for any injury arising directly or indirectly from use of the material.

NOTICE No. 2 - **HXTAL NYL-1 PART A** is manufactured and sold for professional use only. It is sold with the limitation that it not be used by, sold, given, or distributed to any person unfamiliar with the danger of chemical hazards and with this MSDS.

NOTICE No. 3 - **HXTAL NYL-1 PART A**, alone or in combination with other materials, **including HXTAL NYL-1 PART B**, is unsuitable for use inside of or on the surfaces of any living human or animal. Such use is specifically prohibited.

NOTICE No. 4 - **HXTAL NYL-1 PART A** must be used and stored in such manner as to prevent children and others unfamiliar with chemical hazards and this MSDS from obtaining access to it.

NOTICE No. 5 - Information in this MSDS must not be regarded as recommending use of **HXTAL NYL-1 PART A** to obtain any result. Users must perform Independent tests that prove **HXTAL NYL-1 PART A**, alone or in combination with other materials, (Including **HXTAL NYL-1 PART B**), has sufficient strength, durability, and reliability to perform safely and satisfactorily in any application for which It is used.

NOTICE No. 6 - The toxicological properties of **HXTAL NYL-1 PART A** have not been fully investigated.

Therefore to assure safety, users must accept procedures to eliminate opportunities for direct contact with skin and eyes and to prevent ingestion and inhalation.

MATERIAL SAFETY DATA SHEET
HXTAL NYL-1 PART B.

Prepared 23 February 1989.

SECTION 1: IDENTIFICATION.

Product Name: **HXTAL NYL-1 PART B**

Chemical Name: Poly(oxy)(methyl-1,2-ethanediyl), alpha-hydro-omega-(2-aminomethylathoxy)-ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol(3:1) + Imidizoles.

Chemical Family: Alkyl ether amine + Imidizoles.

SECTION 2-A: PRODUCT / INGREDIENT (Pr/In)

Product: **HXTAL NYL-1 PART B** 100%

SECTION 2-B: ACUTE TOXICITY DATA.

Acute Oral LD 50 – Product: <0.22 g/kg (Rat)

Acute Dermal LD 50 - Product: < 0.40 g/kg (Rabbit)

Acute Inhalation - Product: 0/6 Deaths (Rat), 8 Hrs. Saturated Atmosphere

SECTION 3: HEALTH INFORMATION.

This information is provided to comply with OSHA Hazard Communication Standard (29 CFR 1910.1200)

EYE CONTACT: Tests show **HXTAL NYL-1 PART B** is toxic and extremely irritating. Estimated irritation index: (80 to 110)/ 110 (rabbit), with possible permanent eye injury. Corrosive.

SKIN CONTACT: Tests show product is toxic and extremely irritating. Estimated irritation index: 8.0/8.0 (Rabbit). Product may cause severe skin damage with burns and blistering . Corrosive.

INHALATION: Product may irritate nose, throat, or respiratory tract. Vapor from heated product and mists may present inhalation hazards.

INGESTION: Testing shows product is toxic and harmful if swallowed.

SIGNS AND SYMPTOMS. Irritation as noted above.

AGGRAVATED MEDICAL CONDITIONS: Preexisting skin, eye, and inhalation disorders may be aggravated by exposure to this product.

HAZARD STATUS: **HXTAL NYL-1 PART B** is a hazardous material by OSHA Appendix A criteria.

HMIS - Health 3, Flammability: 1, Reactivity:0.

SECTION 4: OCCUPATIONAL EXPOSURE LIMITS.

OSHA
PEL/TWA PEL/CEILING

ACGIH
TLV/TWA TLV/STEL

Product: None Established

None Established

SECTION 5: EMERGENCY AND FIRST AID PROCEDURES.

EYE CONTACT; Hold eyelids open & flush eyes with plenty of clean water for 15 min. Get medical attention fast!

SKIN CONTACT: If irritation occurs, get medical attention. For small area contact, immediately wipe away with soft cloth or tissue, and wash thoroughly with cool water and soap. Inadequately washed hands can carry material to eyes hours later. If drenched, immediately remove clothing and shoes. Wipe material from skin and wash thoroughly with cool water and soap. Do not reuse clothing until laundered. Leather articles cannot be adequately decontaminated and should be destroyed to prevent reuse.

INHALATION: If irritation occurs, remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

INGESTION: Do not induce vomiting. If vomiting occurs, keep head below hips to prevent aspiration of liquid into lungs. Get immediate medical attention.

SECTION 6: SUPPLEMENTAL HEALTH INFORMATION.

NOTE: The toxicological properties of **HXTAL NYL-1 PART B** have not been fully determined. Users must therefore adopt suitable procedures to eliminate all opportunities for direct contact with skin and eyes, and also to prevent any possibility of ingestion or inhalation.

SECTION 7: PHYSICAL DATA.

Appearance and odor: Colorless liquid, mild ammonia-like odor.

Melting point: Unknown.

Vapor pressure: <1 mm Hg at 40°C.

Boiling point: > 200°F.

Specific gravity: 0.9812.

pH: >12.3 VERY BASIC. (Note Think Lye!)

Percent volatile: Nil.

Viscosity: > 80 CS at 25°C.

Solubility in water: Soluble.

SECTION 8: FIRE AND EXPLOSION HAZARDS.

Unusual fire and explosion hazards: None.

Flash point: > 300°F.

Flammable limits, upper and lower: Unknown.

Product will not burn unless preheated.

Evolved from burning: Ammonia, carbon dioxide, and carbon monoxide may be formed upon burning in limited air supply.

Extinguishing media: Water, foam, dry chemical, CO₂.

Special fire fighting procedures: Do not enter confined fire space without wearing a positive pressure NIOSH approved self contained breathing apparatus and full bunker gear (helmet with face shield, bunker coat, gloves, and rubber boots). Cool containers with water.

SECTION 9: REACTIVITY.

Stability: Stable.

Hazardous polymerization: Will not occur.

Violent reactions: May occur with acids. Avoid uncontrolled reaction with acids.

Heat output: Reaction with some epoxides and accelerators may evolve considerable heat.

SECTION 10: EMPLOYEE PROTECTION.

EXPOSURE AVOIDANCE:

No person unfamiliar with the dangers of chemical hazards and with the contents of this MSDS should be permitted to use **HXTAL NYL-1 PART B**. Splash resistant goggles plus full face shield should be worn to prevent all eye contact. Gloves and other protective clothing should be worn to minimize skin contact. Ventilation should be provided to control vapor concentration. Eye wash equipment and safety showers should be provided.

SECTION 11: ENVIRONMENTAL PROTECTION.

SPILLS:

Flammability: **HXTAL NYL-1 PART B** can burn if preheated but is not easily ignited, nevertheless, use caution when cleaning spills.

For large spills: Wear a respirator and protective clothing as appropriate. Dike and contain. Scoop up residue with dry absorbent material such as clay, sand, or similar material. Dispose of in compliance with Federal, state, and local laws and regulations. Flush area with water to remove trace residue.

Small spills: Take up with dry absorbent material and dispose of in compliance with Federal, state, and local laws and regulations.

ENVIRONMENTAL HAZARDS: Keep out of surface waters, sewers and waterways entering or leading to surface waters. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

NOTE: **HXTAL NYL-1 PART B** when used to cure **HXTAL NYL-1 PART A** produces an inert material that can usually be discarded with ordinary refuse if such disposal does not conflict with Federal, state, and local laws and regulations.

SECTION 12: SPECIAL PRECAUTIONS.

KEEP HXTAL NYL-1 PART B in sturdy well-sealed containers away from high temperatures and flames. If storage above 100°F is unavoidable, a nitrogen atmosphere is suggested. Periods of high temperature exposure should be minimized. Store in a cool dry place with adequate ventilation. Minimum handling temperatures should be maintained and moisture contamination should be avoided. Handle in accordance with the hazard potential of **HXTAL NYL-1 PART A** and of any auxiliary materials used with **HXTAL NYL-1 PART B**. After each use, carefully wash with soap and water before eating, drinking, smoking, or using toilet facilities.

Inadequately cleaned hands can carry material to eyes hours later
Launder contaminated clothing before reuse.
Leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.

SECTION 13: TRANSPORTATION.

Because it is corrosive, **HXTAL NYL-1 PART B** is a hazardous material according to U.S. Department of Transportation Regulations.

Proper shipping name: Alkaline corrosive liq. N.O.S.

DOT Class: Corrosive material UN 2735 Packing Group III

SECTION 14: LABEL STATEMENTS.

Warning! Danger! Professional use only!

Causes severe skin burns.

Causes severe eye burns and may cause blindness.

Serious injury may result if swallowed.

Serious injury may result if absorbed through skin.

Avoid contact with eyes.

Avoid contact with skin.

Avoid breathing vapor or mist. Keep containers tightly closed. Use only in well ventilated locations

Wash thoroughly after handling. Inadequately washed hands can carry material to eyes hours later.

Launder contaminated clothing before reuse.

Destroy contaminated leather articles including shoes.

Keep away from children and everyone else, unfamiliar with chemical hazards and this Material Safety Data Sheet.

SECTION 15: NOTICES.

NOTICE NO. 1: Information in this MSDS is believed to be as complete and correct as present knowledge permits. However, the information and data are supplied without warranty of any kind as to accuracy and suitability.

Users of **HXTAL NYL-1 PART B** must consider the contents of this MSDS only as a supplement to data and information they gather for themselves from testing and experience from ongoing study of chemical safety literature and from other sources. Users must independently determine the suitability and completeness of information from many sources of which this MSDS is only a small part. By such effort and means, users must assure safe use and disposal of **HXTAL NYL-1 PART B** so as to safeguard the safety, health, and property of themselves, their associates and employees, their customers and clients, and the general public.

The manufacturer of **HXTAL NYL-1 PART B** assumes no responsibility for any injuries arising directly or indirectly from use of the material.

NOTICE NO. 2: **HXTAL NYL-1 PART B** is manufactured and sold for professional use only. It is sold with the limitation that it not be used by, sold, given, or distributed to any person unfamiliar with the danger of chemical hazards and with this MSDS.

NOTICE NO. 3: **HXTAL NYL-1 PART B**, alone or in combination with other materials, including **HXTAL NYL-1 PART A**, has not been manufactured for use inside of or on the surfaces of any living human or animal, and such use is specifically prohibited.

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NOTICE NO. 5: Information in this MSDS must not be regarded as recommending that **HXTAL NYL-1 PART B** be used to obtain any particular result. Users must perform independent tests that prove **HXTAL NYL-1 PART B**, alone or in combination with other materials (including **HXTAL NYL-1 PART A**) has adequate strength, durability, and reliability to perform safely and satisfactorily in any application for which it is used.

NOTICE NO. 6: The toxicological properties of **HXTAL NYL-1 PART B** have not been fully determined. Therefore, to assure safety, users must adopt procedures to eliminate opportunities for direct contact with skin and eyes and to prevent any ingestion or inhalation.