

MATERIAL SAFETY DATA SHEET

LANXESS

Energizing Chemistry

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Product Safety & Regulatory Affairs
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TRANSPORTATION EMERGENCY
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NON-TRANSPORTATION
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1. Product and Company Identification

Product Name: PLEXENE EXTRA CONC
Material Number: 2954994
Chemical Family: Chelating Agent

2. Hazards Identification

Emergency Overview

WARNING! Color: Clear Form: Liquid Odor: Slight, Ammonia.
Irritating to eyes, respiratory system and skin. May cause delayed lung injury and burns.
May cause permanent eye injury. Aspiration hazard if swallowed - can enter lungs and
cause damage. Contains material which may cause cancer based on animal data.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Eye Contact, Ingestion, Inhalation

Medical Conditions Aggravated by Exposure: Skin disorders, Respiratory disorders, Eye disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation

Acute Inhalation

For Product: PLEXENE EXTRA CONC

Causes respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

For Component: Ethylenediamine Tetraacetic Acid Tetrasodium Salt

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

For Component: Sodium hydroxide

Corrosive with symptoms of coughing, burning, ulceration, and pain.

For Component: Sodium Nitriloacetate

May be harmful by inhalation. Causes respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

Chronic Inhalation

For Component: Sodium Nitriloacetate

Repeated or prolonged exposure may cause effects as described in chronic ingestion.

Skin

Acute Skin

For Product: PLEXENE EXTRA CONC

Causes irritation with symptoms of reddening, itching, and swelling.

For Component: Ethylenediamine Tetraacetic Acid Tetrasodium Salt

Causes irritation with symptoms of reddening, itching, and swelling.

For Component: Sodium hydroxide

Corrosive with symptoms of reddening, itching, swelling, burning and possible permanent damage.

For Component: Sodium Nitriloacetate

May cause irritation with symptoms of reddening and itching.

Eye

Acute Eye

For Product: PLEXENE EXTRA CONC

Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

For Component: Ethylenediamine Tetraacetic Acid Tetrasodium Salt

May cause irritation with symptoms of reddening, tearing and stinging.

For Component: Sodium hydroxide

Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage.

For Component: Sodium Nitriloacetate

Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Ingestion

Acute Ingestion

For Product: PLEXENE EXTRA CONC

Not expected to be harmful if swallowed.

For Component: Ethylenediamine Tetraacetic Acid Tetrasodium Salt

Not expected to be harmful if swallowed.

For Component: Sodium hydroxide

Harmful if swallowed. Corrosive to the digestive tract with symptoms of burning and ulceration.

For Component: Sodium Nitriloacetate

Moderately toxic by ingestion. Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

Chronic Ingestion

For Component: Sodium Nitriloacetate

May cause kidney damage.

General Effects of Exposure

Chronic Effects of Exposure

For Product: PLEXENE EXTRA CONC

No applicable information was found concerning any adverse chronic health effects from overexposure to this product.

Carcinogenicity:

Sodium Nitriloacetate

IARC - Overall evaluation: 2B Possible carcinogen.

3. Composition/Information on Ingredients

Hazardous Components

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
30 - 40%	Ethylenediamine Tetraacetic Acid Tetrasodium Salt	64-02-8
1 - 5%	Sodium hydroxide	1310-73-2
1 - 5%	Sodium Nitriloacetate	5064-31-3

4. First Aid Measures

Eye Contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Call a physician immediately.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention. Wash clothing and shoes before reuse.

Inhalation

If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: All extinguishing media are suitable.

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. Accidental release measures

Spill and Leak Procedures

Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal.

7. Handling and Storage

Storage Period

Not Established

Handling/Storage Precautions

Avoid breathing dust, vapor, or mist. Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use. Protect from freezing. Stir before using.

8. Exposure Controls / Personal Protection

Sodium hydroxide (1310-73-2)

US. ACGIH Threshold Limit Values

Ceiling Limit Value: 2 mg/m³

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 2 mg/m³

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment.

Hand Protection

Permeation resistant gloves.

Eye Protection

goggles.

Skin and body protection

Permeation resistant clothing and foot protection.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

9. Physical and chemical properties

Form:	Liquid
Color:	Clear
Odor:	Slight, Ammonia
pH:	11 - 12

Boiling Point/Range: Approximately 100 °C (212 °F)
Flash Point: > 93.33 °C (> 200 °F)
Vapor Pressure: Not Established
Specific Gravity: 1.29 - 1.325 @ 25 °C (77 °F)
Solubility in Water: Soluble
VOC Content: 0 % Tested by EPA Method 24

10. Stability and Reactivity

Hazardous Reactions

Hazardous polymerization does not occur.

Stability

Stable

Materials to avoid

Oxidizing agents, Reducing agents

Hazardous decomposition products

By Fire: Carbon oxides, nitrogen oxides (NOx), sulfur oxides, other potentially toxic fumes

11. Toxicological Information

Toxicity Data for Ethylenediamine Tetraacetic Acid Tetrasodium Salt

Acute Oral Toxicity

LD50: > 2,000 mg/kg (Rat)

LD50: 30 mg/kg (mouse)

Skin Irritation

rabbit, Draize, Exposure Time: 24 hrs, Moderately irritating

Eye Irritation

rabbit, Draize, Exposure Time: 24 hrs, Moderately irritating

Sensitization

dermal: non-sensitizer (Guinea pig, Maximization Test)

Repeated Dose Toxicity

90 - 365 Days, oral: NOAEL: 250 mg/kg, (Dog)

There were no adverse effects seen at highest dose tested.

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Positive and negative results were seen in various in vitro and in vivo studies.

Toxicity Data for Sodium hydroxide

Acute Oral Toxicity

LD50: 140 - 340 mg/kg (Rat)

Acute dermal toxicity

LD50: 1,350 mg/kg (rabbit)

Skin Irritation

rabbit, Corrosive

Eye Irritation

rabbit, Corrosive

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium)

Positive and negative results were seen in various in vitro studies.

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (mouse, Male/Female, intraperitoneal)

Toxicity Data for Sodium Nitroacetate**Acute Oral Toxicity**

LD50: 1,100 mg/kg (rat)

Acute Inhalation Toxicity

LC50: > 5 mg/l, (rat)

Skin Irritation

rabbit, No skin irritation

Eye Irritation

rabbit, Draize Test, Exposure Time: 24 hrs, Moderately irritating

Sensitization

dermal: non-sensitizer (Human, Patch Test)

Repeated Dose Toxicity

4 Weeks, inhalation: NOAEL: 0.213 mg/kg, (rat)

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Positive and negative results were seen in various in vitro studies.

Cytogenetic assay: positive (other mammalian cell line, Metabolic Activation: without)

Carcinogenicity

Nitroacetic acid, when tested for carcinogenicity by oral administration in the diet in mice and rats, induced renal-cell adenocarcinomas in mice of each sex, renal-cell tumours in male rats and carcinomas of the urinary bladder, hepatocellular adenomas and adrenal pheochromocytomas in female rats. The trisodium salt, when administered to mice and rats by oral administration, induced haematopoietic tumours in male mice and benign and malignant tumours of the urinary system (kidney, ureter and bladder) in rats of each sex. When administered in drinking-water to male rats, it induced renal adenomas and adenocarcinomas.

Toxicity to Reproduction/Fertility

Two generation study, (rat, Male/Female) NOAEL (parental): 250 mg/kg, NOAEL (F1): 250 mg/kg,

NOAEL (F2): 250 mg/kg,

No effects on Reproductive parameters observed at doses tested.

Developmental Toxicity/Teratogenicity

rabbit, female, oral, 10 Days, daily, NOAEL (teratogenicity): 250 mg/kg, NOAEL (maternal): 250 mg/kg,

No Teratogenic effects observed at doses tested. No fetotoxicity observed at doses tested.

12. Ecological Information

Ecological Data for Ethylenediamine Tetraacetic Acid Tetrasodium Salt

Biodegradation

Aerobic, 10 %, Exposure time: 28 Days
Under test conditions no biodegradation observed.
Aerobic, < 20 %, Exposure time: 28 Days
Inherently biodegradable.

Chemical Oxygen Demand (COD)

550 mg/g

Acute and Prolonged Toxicity to Fish

LC50: 59.8 mg/l (Fathead minnow (*Pimephales promelas*), 96 hrs)
LC50: 1,030 mg/l (Bluegill (*Lepomis macrochirus*), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

EC50: 610 mg/l (Water flea (*Daphnia magna*), 24 hrs)
EC50: 930 mg/l (Water flea (*Daphnia magna*), 24 hrs)

Toxicity to Aquatic Plants

EC50: > 100 mg/l, End Point: other (Green algae (*Scenedesmus subspicatus*), 72 hrs)

Toxicity to Microorganisms

EC10: > 1,000 mg/l, (Other bacteria, 30 min)
EC10: 663 mg/l, (Other bacteria, 48 hrs)

Ecological Data for Sodium hydroxide

Acute and Prolonged Toxicity to Fish

LC50: 45.4 mg/L (50 %, pH 8) (Rainbow (Donaldson) Trout (*Oncorhynchus mykiss*), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

LC100: 156 mg/L (pH 9.1 - 9.35) (Water flea (*Daphnia magna*))

Toxicity to Aquatic Plants

Lethal from pH 8.5, (other: algae)

Ecological Data for Sodium Nitriloacetate

Biodegradation

aerobic, 99 %, Exposure time: 28 Days

Biological Oxygen Demand (BOD)

5 Days, 59 %

Acute and Prolonged Toxicity to Fish

LC50: 103 - 114 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)
LC50: 5,500 mg/l (Striped bass (*Morone saxatilis*), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

EC50: 560 - 1,000 mg/l (Water flea (*Daphnia magna*), 48 hrs)

Toxicity to Aquatic Plants

EC50: 560 - 1,000 mg/l, End Point: biomass (other: algae, 96 hrs)

Toxicity to Microorganisms

EC50: 180 - 320 mg/l, (Other bacteria, 96 hrs)

13. Disposal considerations**Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Label precautions also apply to this container when empty.

14. Transportation information**Land transport (DOT)**

Proper Shipping Name:	Corrosive liquids, n.o.s. (contains Sodium hydroxide)
Hazard Class or Division:	8
UN/NA Number:	UN1760
Packaging Group:	II
Hazard Label(s):	Corrosive

RSPA/DOT Regulated Components:

Sodium hydroxide

Reportable Quantity: 33,333 lb**Sea transport (IMDG)**

Proper Shipping Name:	CORROSIVE LIQUID, N.O.S. (contains Sodium hydroxide)
Hazard Class or Division:	8
UN-No:	UN1760
Packaging Group:	II
Hazard Label(s):	Corrosive

Air transport (ICAO/IATA)

Proper Shipping Name:	Corrosive liquid, n.o.s. (contains Sodium hydroxide)
Hazard Class or Division:	8
UN-No:	UN1760
Packaging Group:	II
Hazard Label(s):	Corrosive

15. Regulatory Information**United States Federal Regulations****OSHA Hazcom Standard Rating:** Hazardous**US. Toxic Substances Control Act:** Listed on the TSCA Inventory.**US. EPA CERCLA Hazardous Substances (40 CFR 302):**

Components

Sodium hydroxide

Reportable quantity: 1,000 lbs

SARA Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:

Components

None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Water	7732-18-5
30 - 40%	Ethylenediamine Tetraacetic Acid	64-02-8
	Tetrasodium Salt	
>=1%	Sodium Glycolate	2836-32-0
1 - 5%	Sodium Nitriloacetate	5064-31-3
1 - 5%	Sodium hydroxide	1310-73-2

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
1 - 5%	Sodium hydroxide	1310-73-2

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
1 - 5%	Sodium Nitriloacetate	5064-31-3

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

16. Other Information

NFPA 704M Rating

Health	2
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	2*
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

LANXESS Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS Corporation as a customer service.

Contact Person: Product Safety Department
Telephone: (800) LANXESS
MSDS Number: R305802
Version Date: 04/15/2005
Report Version: 2.1

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|| Changes since the last version will be highlighted in the margin. This version replaces all previous versions.