We create chemistry

Safety Data Sheet
Lupragen® N 205 - Bis(2-dimethylaminoethyl)ether

1. Identification

Product identifier used on the label

Lupragen® N 205 - Bis(2-dimethylaminoethyl)ether

Recommended use of the chemical and restriction on use

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula:	C(8)H(20)N(2)O
Chemical family:	amine, tertiary

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Acute Tox.	3 (dermal)	Acute toxicity
Skin Corr./Irrit.	1B	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H311	Toxic in contact with skin.
H332	Harmful if inhaled.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe mist or vapour.
P260	Do not breathe dust or mist.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P352	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

DANGER:
CORROSIVE LIQUID.
PRODUCT VAPOUR CAN CAUSE IRRITATION AND CORNEAL EDEMA WHICH MAY GIVE RISE TO A TEMPORARY PERCEPTION OF 'BLUE HAZE' OR FOG AROUND LIGHTS.
CORROSIVE.
Prolonged or repeated contact may result in dermatitis.
CAUSES SKIN BURNS.
CAUSES EYE BURNS.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

INGESTION MAY CAUSE GASTRIC DISTURBANCES.
Wear chemical resistant protective gloves.
Eye wash fountains and safety showers must be easily accessible.
Wear full face shield if splashing hazard exists.
Wear protective clothing.
Wear NIOSH-certified chemical goggles.
Avoid inhalation of mists/vapours.
Ensure adequate ventilation.
Wash thoroughly after handling.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Content (W/W)	Chemical name
3033-62-3	>= 97.0 - <= 100.0 %	N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Content (W/W)	Chemical name
3033-62-3	> 98.0 %	N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

If on skin:
Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, dry powder, foam, water spray

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up
Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling
Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:
Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities
Segregate from acids and acid forming substances.

Further information on storage conditions: Keep container tightly closed. Avoid extreme heat. Keep away from sources of ignition - No smoking.

Storage stability:
Storage duration: 24 Months
From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)	ACGIH TLV	TWA value 0.05 ppm ; STEL value 0.15 ppm ; Skin Designation ; The substance can be absorbed through the skin.

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Use recommended respirator with a full face-piece. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Suitable materials, nitrile rubber (Buna N), butyl rubber

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Impermeable protective clothing, Chemical resistant protective boots, chloroprene rubber (Neoprene)

General safety and hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

9. Physical and Chemical Properties

Form:	liquid
Odour:	mild, amine-like

Odour threshold:		Not determined since harmful by inhalation.
Colour:	colourless to yellowish	
pH value:	11.8	(100 g/l, 25 °C)
Freezing point:	< -80 °C	(760 mmHg)
Boiling point:	188 °C	
Flash point:	68 °C	(DIN EN 22719; ISO 2719)
Flammability:	Combustible liquid.	
Lower explosion limit:		For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit:		For liquids not relevant for classification and labelling.
Autoignition:		No data available.
Vapour pressure:	0.28 mmHg	(20 °C)
Density:	0.853 g/cm3	(20 °C)
Relative density:	0.85	(20 °C) (calculated)
Partitioning coefficient n-octanol/water (log Pow):	-0.339	(20 °C) (OECD Guideline 107)
Self-ignition temperature:		(other) not self-igniting
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, kinematic:	1.53 mm2/s	(20 °C) (OECD 114)
Solubility in water:		(20 °C) miscible
Miscibility with water:		miscible
Molar mass:	160.26 g/mol	
Evaporation rate:		Value can be approximated from Henry's Law Constant or vapor pressure.

10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing. (other)

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability

Possibility of hazardous reactions
The product is chemically stable.

Conditions to avoid
Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures.

Incompatible materials
mineral acids, strong oxidizing agents, alkyl halides

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxides

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Of moderate toxicity after single ingestion. Of moderate toxicity after short-term inhalation. Of pronounced toxicity after short-term skin contact.

Information on: Blue Haze

Oral
Type of value: LD50
Species: rat (male/female)
Value: 609 mg/kg (OECD Guideline 401)

Inhalation
Type of value: LC50
Species: rat (male/female)
Value: 3.3 - 4.4 mg/l (BASF-Test)
Exposure time: 4 h
An aerosol was tested.

Species: rat (male/female)
Value: (BASF-Test)
Exposure time: 3 h
Inhalation-risk test (IRT): No mortality within 3 hours as shown in animal studies. Deaths possible with prolonged exposure.

Dermal
Type of value: LD50
Species: rabbit (male/female)
Value: 314 mg/kg (similar to OECD guideline 402)

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion
Assessment of irritating effects: Corrosive! Damages skin and eyes.

Skin
Species: rabbit

Result: Corrosive.
Method: Draize test

Eye
Species: rabbit
Result: Corrosive.
Method: similar to OECD guideline 405

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Guinea pig maximization test
Species: guinea pig
Result: Non-sensitizing.
Method: similar to OECD guideline 406

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No adverse effects were observed after repeated exposure in animal studies. After repeated exposure the prominent effect is local irritation.

Genetic toxicity
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity
Assessment of carcinogenicity: No data available.
Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

Reproductive toxicity
Assessment of reproduction toxicity: No data available.

Teratogenicity
Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies. Effects observed at maternally toxic doses.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

Medical conditions aggravated by overexposure
Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish
LC50 (96 h) approx. 131.2 mg/l, Brachydanio rerio (OECD Guideline 203, semistatic)
The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates
EC50 (48 h) 102 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants
EC50 (72 h) 24 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.

EC10 (72 h) 5 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.

EC50 (72 h) 23 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration.

EC10 (72 h) 5.3 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration.

Chronic toxicity to fish
Study not necessary due to exposure considerations.

Chronic toxicity to aquatic invertebrates
Study not necessary due to exposure considerations.

Assessment of terrestrial toxicity
Study not necessary due to exposure considerations.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 activated sludge, industrial/EC20 (30 min): > 720 mg/l
Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Not readily biodegradable (by OECD criteria). Poorly eliminated from water.

Elimination information

< 10 % DOC reduction (28 d) (OECD Guideline 302 B) (aerobic, activated sludge, industrial, non-adapted)

< 10 % BOD of the ThOD (28 d) (ISO DIS 9408) (aerobic, activated sludge)

Assessment of stability in water
According to structural properties, hydrolysis is not expected/probable.

Assessment photodegration
After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Photodegradation
$t_{1/2}$ (Indirect photolysis) 0.6 h; OH radical (calculated)
After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Bioaccumulative potential

Assessment bioaccumulation potential
No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Additional information

Sum parameter

Chemical oxygen demand (COD): 670 mg/g

Biochemical oxygen demand (BOD) Incubation period 5 d: 2 mg/g

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Other ecotoxicological advice:
Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

13. Disposal considerations

Waste disposal of substance:
Incinerate in a licensed facility. Do not discharge substance/product into sewer system.

Container disposal:
Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport
USDOT

Hazard class:	8
Packing group:	II
ID number:	UN 2922
Hazard label:	8, 6.1
Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains N,N,N',N'-TETRAMETHYL-2,2-OXYBIS(ETHYLAMINE))

Sea transport
IMDG

Hazard class:	8
Packing group:	II
ID number:	UN 2922
Hazard label:	8, 6.1
Marine pollutant:	NO
Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains N,N,N',N'-

TETRAMETHYL-2,2-OXYBIS(ETHYLAMINE))

Air transport
IATA/ICAO

Hazard class:	8
Packing group:	II
ID number:	UN 2922
Hazard label:	8, 6.1
Proper shipping name:	CORROSIVE LIQUID, TOXIC, N.O.S. (contains N,N,N',N'-TETRAMETHYL-2,2-OXYBIS(ETHYLAMINE))

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

State regulations

State RTK	CAS Number	Chemical name
NJ	3033-62-3	N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)

NFPA Hazard codes:
Health : 3 Fire: 2 Reactivity: 0 Special:

HMIS III rating
Health: 3 Flammability: 2 Physical hazard: 0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute	3	Hazardous to the aquatic environment - acute
Skin Corr./Irrit.	1B	Skin corrosion/irritation
Acute Tox.	3 (dermal)	Acute toxicity
Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Flam. Liq.	4	Flammable liquids
Eye Dam./Irrit.	1	Serious eye damage/eye irritation

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/04/14

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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