

## SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519

### BA-1210

Version 4

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CN / EN

#### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Information  
Trade name : BA-1210

Use of the Substance/Mixture : Specific use(s): Chemical intermediate

Company : Nouryon  
Functional Chemicals AB  
SE 444 85 Stenungsund  
Sweden

Telephone : +4630385000  
Telefax : +46303770551  
E-mail address : QTS@nouryon.com  
Emergency telephone number : 24 hours emergency response number: +31 57 06 79211  
Kemiakuten-SE: 020 99 60 00

#### 2. HAZARDS IDENTIFICATION

##### Emergency Overview

<b>Appearance</b>	
Form	viscous liquid
Colour	brown
Odour	ammoniacal
<b>GB 6944/12268</b>	
UN number	UN 2735
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyethyleneamines)
Class	8
Packing group	III
<b>Hazard Summary</b>	
General advice	Immediate medical attention is required. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
<b>Physical and chemical hazards</b>	The product is not classified for physical and chemical hazards.
<b>Health hazards</b>	
Inhalation	Inhalation of aerosols may cause irritation to mucous

	membranes. Thermal decomposition can lead to release of irritating gases and vapours. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin	Symptoms may be delayed. May cause an allergic skin reaction. Causes severe skin burns.
Eyes	Causes serious eye damage.
Ingestion	Harmful if swallowed. Causes burns.
<b>Environmental hazards</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

### GHS Classification

Acute toxicity, Category 4, Oral  
 Skin corrosion/irritation, Category 1C  
 Serious eye damage/eye irritation, Category 1  
 Skin sensitisation, Category 1  
 Reproductive toxicity, Category 1B  
 Effects on or via lactation  
 Acute aquatic toxicity, Category 3  
 Chronic aquatic toxicity, Category 3

### GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H360 May damage fertility or the unborn child.  
 H362 May cause harm to breast-fed children.  
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**  
 P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 P263 Avoid contact during pregnancy/ while nursing.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Physical and chemical hazards**

The product is not classified for physical and chemical hazards.

**Health hazards**

Inhalation	: Inhalation of aerosols may cause irritation to mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin	: Symptoms may be delayed. May cause an allergic skin reaction. Causes severe skin burns.
Eyes	: Causes serious eye damage.
Ingestion	: Harmful if swallowed. Causes burns.
Further information	: May damage fertility or the unborn child. May cause harm to breast-fed children.

**Environmental hazards**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

**Other hazards**

No further data available.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature : Substance

**Hazardous substance**

Chemical name	CAS-No.	Classification	Concentration [%]
Ethanol, 2-amino-, reaction products with ammonia, by-products from	68910-05-4	Acute Tox. 4; H302 Skin Corr./Irrit. 1C; H314 Eye Dam./Irrit. 1; H318 Skin Sens. 1; H317 Repr. 1B; H360 Lact. H362 Aquatic Acute 3; H402 Aquatic Chronic 3; H412	>= 90 - <= 100

For the full text of the H-Statements mentioned in this Section, see Section 16.

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**4. FIRST AID MEASURES**

- General advice : Immediate medical attention is required.  
Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.
- Inhalation : If breathed in, move person into fresh air.  
Consult a physician after significant exposure.
- Skin contact : Take off contaminated clothing and shoes immediately.  
Rinse immediately with plenty of water.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.  
If skin irritation persists, call a physician.
- Eye contact : Rinse with plenty of water.  
Get medical attention immediately. Continue to rinse during transport.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- Ingestion : Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Take victim immediately to hospital.  
Do not induce vomiting! May cause chemical burns in mouth and throat.

**Notes to physician**

- Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

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Risks	: Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. May damage fertility or the unborn child. May cause harm to breast-fed children. Causes severe burns.
Treatment	: Treat symptomatically.

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## 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting / Specific hazards arising from the chemical	: Do not allow run-off from fire fighting to enter drains or water courses.
Combustion products	: Carbon oxides Nitrogen oxides (NOx)
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus.
Further information	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions	: Use personal protective equipment. Wear respiratory protection. Ensure adequate ventilation.
Emergency measures on accidental release	: Evacuate personnel to safe areas. Only qualified personnel equipped with suitable protective equipment may intervene. Prevent unauthorised persons entering the zone.
Environmental precautions	: Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up / Methods for containment	: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Reference to other sections	: For disposal considerations see section 13.  For personal protection see section 8.

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**7. HANDLING AND STORAGE**

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**Handling**

Advice on safe handling : Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

For personal protection see section 8.  
Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Avoid contact with skin.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.  
Obtain special instructions before use.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

**Storage**

Requirements for storage areas and containers : Prevent unauthorized access.  
Keep container tightly closed in a dry and well-ventilated place.  
Reacts with copper, aluminium, zinc and their alloys.

Other data : No decomposition if stored and applied as directed.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Appropriate engineering controls**

Effective exhaust ventilation system  
Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protective equipment**

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.  
Wear full face mask supplied with:  
Gas cartridge K (ammonia, green).

Hand protection : butyl-rubber

Eye/face protection : Safety glasses with side-shields conforming to EN166

Skin and body protection : Protective suit

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.  
Wash contaminated clothing before re-use.

**Environmental exposure controls**

General advice : Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form : viscous liquid  
Colour : brown  
Odour : ammoniacal  
Odour Threshold : No data available

**Safety data**

pH : 12 at 25 % solution  
Melting point/freezing point : < -30 °C  
at 1,013 hPa  
Boiling point/boiling range : 254 °C  
at 1,013 hPa  
Flash point : 176 °C  
at 1,013 hPa  
Method: Pensky-Martens ISO 2719  
Evaporation rate : No data available  
Flammability (solid, gas) : Not applicable  
Flammability (liquids) : Not classified as a flammability hazard  
Lower explosion limit : No data available  
Upper explosion limit : No data available  
Vapour pressure : 0.00009 hPa at 20 °C  
Relative vapour density : No data available  
Density : 1,022 kg/m<sup>3</sup> at 20 °C  
1,006 kg/m<sup>3</sup> at 55 °C

Relative density	: 1.024 at 20 °C
Water solubility	: at 20 °C soluble
Solubility in other solvents	: Soluble in ethanol and acetone.
Partition coefficient: n-octanol/water	: log Pow: -2.6 at 25 °C
Auto-ignition temperature	: 355 °C at 1,013 hPa
Decomposition temperature	: No data available
Viscosity, dynamic	: 40 mPa.s at 50 °C
Viscosity, kinematic	: 39 mm <sup>2</sup> /s at 50 °C
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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**10. STABILITY AND REACTIVITY**

Conditions to avoid	: Extremes of temperature and direct sunlight.
Materials to avoid	: Reacts with copper, aluminium, zinc and their alloys. Strong acids and oxidizing agents Halogenated compounds
Hazardous decomposition products	: Nitrogen oxides (NO <sub>x</sub> )
Thermal decomposition	: No data available
Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under recommended storage conditions.
Hazardous reactions	: Heating can release hazardous gases.

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**11. TOXICOLOGICAL INFORMATION****PRODUCT INFORMATION:****Hazard Summary**

Acute toxicity	: Harmful if swallowed.
Skin corrosion/irritation	: Causes severe burns.



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Serious eye damage/eye irritation	:	Causes serious eye damage.
Respiratory or skin sensitisation	:	Respiratory sensitisation: Not classified based on available information. Skin sensitisation: May cause an allergic skin reaction.
Germ cell mutagenicity	:	Not classified based on available information.
Carcinogenicity	:	Not classified based on available information.
Reproductive toxicity	:	May damage fertility or the unborn child. May cause harm to breast-fed children.
STOT - single exposure	:	Not classified based on available information.
STOT - repeated exposure	:	Not classified based on available information.
Aspiration hazard	:	Not classified based on available information.

## Potential Health Effects

Inhalation	:	Inhalation of aerosols may cause irritation to mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin	:	Symptoms may be delayed. May cause an allergic skin reaction. Causes severe skin burns.
Eyes	:	Causes serious eye damage.
Ingestion	:	Harmful if swallowed. Causes burns.
Aggravated Medical Condition	:	None known.
Symptoms of Overexposure	:	The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

## Toxicology Assessment

Further information	:	May damage fertility or the unborn child. May cause harm to breast-fed children.
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## TOXICOLOGY DATA FOR THE COMPONENTS:

### Toxicology Assessment

#### Component: Ethanol, 2-amino-, reaction products with ammonia, by-products from

CMR effects	:	Reproductive toxicity: Presumed human reproductive toxicant  Reproductive toxicity: Effects on or via lactation
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**Test result****Component: Ethanol, 2-amino-, reaction products with ammonia, by-products from**

Acute oral toxicity	: LD50: > 1,000 - 2,000 mg/kg Species: Rat Read-across (Analogy)
Skin irritation	: Species: Rabbit Classification: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days. Method: OECD Test Guideline 404
Eye irritation	: Result: Risk of serious damage to eyes.
Sensitisation	: Maximisation Test Species: Guinea pig Result: May cause sensitisation by skin contact. Method: OECD Test Guideline 406

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**12. ECOLOGICAL INFORMATION****PRODUCT INFORMATION:****Ecotoxicology Assessment**

Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.
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**Test result****Elimination information (persistence and degradability)**

Bioaccumulation	: No bioaccumulation is expected.
Mobility	: No data available
Biodegradability	: Result: Not readily biodegradable.

**Further information on ecology**

Biochemical Oxygen Demand (BOD)	: No data available
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**COMPONENTS:****Ecotoxicology Assessment****Component: Ethanol, 2-amino-, reaction products with ammonia, by-products from**

Acute aquatic toxicity	: Harmful to aquatic life.
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Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

**Test result****Component: Ethanol, 2-amino-, reaction products with ammonia, by-products from****Ecotoxicity effects**

- Toxicity to fish : LC50: > 100 mg/l  
Exposure time: 96 h  
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates : EC50: 64 mg/l  
Exposure time: 48 h  
Species: Daphnia magna (Water flea)  
Test Type: Immobilization  
Method: OECD Test Guideline 202
- Toxicity to algae : EC50: expected to be: approx. > 10 - 100 mg/l  
Exposure time: 72 h  
Species: Pseudokirchneriella subcapitata (green algae)  
Test Type: Growth inhibition
- Toxicity to bacteria : EC50: 400 mg/l  
Exposure time: 16 h  
Species: Pseudomonas putida  
Test Type: Growth inhibition  
Method: ISO 10712 - Determination of the inhibitory effect of water constituents on bacteria.

**Elimination information (persistence and degradability)**

- Bioaccumulation : No bioaccumulation is expected.
- Mobility : No data available
- Biodegradability : Result: Not readily biodegradable.

**Further information on ecology**

- Biochemical Oxygen Demand (BOD) : No data available

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**13. DISPOSAL CONSIDERATIONS**

- Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Hazardous waste  
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.

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**14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

UN/ID No. : UN 2735  
Proper shipping name : Amines, liquid, corrosive, n.o.s.  
(Polyethyleneamines)  
Class : 8  
Packing group : III  
Labels : 8  
Packing instruction (cargo aircraft) : 856  
Packing instruction (passenger aircraft) : 852  
Packing instruction (LQ) : Y841  
Environmentally hazardous : no

**IMDG-Code**

UN number : UN 2735  
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.  
(Polyethyleneamines)  
Class : 8  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B  
Marine pollutant : no

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****GB 6944/12268**

UN number : UN 2735  
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S.  
(Polyethyleneamines)  
Class : 8  
Packing group : III  
Labels : 8  
Environmentally hazardous : no

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**15. REGULATORY INFORMATION****Notification status**

TSCA : YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.  
DSL : q (quantity restricted). This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL. Ethanol, 2-amino-, reaction products with ammonia, by-products from  
AICS : YES. On the inventory, or in compliance with the inventory  
NZIoC : e (special case). This substance may be used as a component in a

product covered by a group standard but it is not approved for use as a chemical in its own right.

ENCS	: NO. Not in compliance with the inventory
ISHL	: NO. Not in compliance with the inventory
KECI	: YES. On the inventory, or in compliance with the inventory
PICCS	: NO. Not in compliance with the inventory
IECSC	: YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see section 16.

#### National regulatory information

Further information : none

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## 16. OTHER INFORMATION

### Full text of H-Statements

H302	: Harmful if swallowed.
H314	: Causes severe skin burns and eye damage.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H360	: May damage fertility or the unborn child.
H362	: May cause harm to breast-fed children.
H402	: Harmful to aquatic life.
H412	: Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations;

UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

## **Further information**

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.

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