

IN-ECO® 332

According to the Regulation No. 1907/2006/EC (REACH) and No. 2015/830/EC

Version: 2022-09-07 / EN

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**Mixture name: **IN-ECO® 332**

Chemical name: Polyamines aqueous solution.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Corrosion inhibitor for boilers condensate line treatment.

1.3. Details of the supplier of the safety data sheet

Company: JSC „Arionex LT“

Address: Ašigalio g. 6c, LT-49142, Kaunas

Telephone: +370 37 214669

E-mail: info@arionex.eu**1.4. Emergency telephone**

Poisoning control and information bureau

Address: Šiltnamių g. 29, LT -2043 Vilnius

Telephone number: 8 5 236 20 52

Fax: 8 5 236 21 42

E-mail: info@tox.lt

Work time: All day (24 hours).

SECTION 2: Hazards Identification**2.1. Classification of the substance or mixture****According to Regulation (EC) No 1272/2008 [CLP]**

Acute Toxicity 4 oral	H302	Harmful if swallowed.
Acute Toxicity 4 Skin contact	H312	Harmful in contact with skin.
Acute Toxicity 4 Inhalation	H332	Harmful if inhaled.
Skin Corrosion 1B	H314	Causes severe skin burns and eye damage.
Reproductive toxicity 2	H361	Suspected of damaging fertility or the unborn child.

2.2. Label elements**According to Regulation (EC) No 1272/2008 [CLP].****Pictogram:****Signal Word:** Danger.**Dangerous components of the mixture:**

Morpholine, cyclohexylamine.

Hazard Statement:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage.
H361	Suspected of damaging fertility or the unborn child.

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Precautionary Statements:

- P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
 P330 Rinse mouth.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P363 Wash contaminated clothing before reuse.
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor/physician.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P501 Dispose of contents/container to accordance with local regulations.

2.3. Other hazards

No specific dangers known, if the regulations/notes for storage and handling are considered.

SECTION 3: Composition/Information on Ingredients**3.1. Substances**

Not applicable.

3.2. Mixtures

Chemical name: Polyamines aqueous solution.

CAS No.	EINECS No.	Index No.	REACH Registration No.	Name	Concentration range (%)	Classification according to Regulation (EC) No 1272/2008 [CLP]
110-91-8	203-815-1	613-028-00-9	01-2119496057-30-0000	Morpholines	20 - 30	Flam. Liq. 3. H226 Acute Tox. Inhalation 3. H331 Acute Tox. Skin 3. H311 Acute Tox. Oral 4. H302 Skin Corr. 1B. H314 Eye Dam. 1 H318
108-91-8	203-629-0	612-050-00-6	01-2119486803-29-0001	Cyclohexilamine	5 - 10	Flam Liq. 3. H226 Repr. 2 H361 Acute Tox. 3 H311 Acute Tox. 3 H301 Skin Corr. 1B H314

For the full text of the H-statements mentioned in the Section 16.

SECTION 4: First-Aid Measures**4.1. Description of first aid measures**

Remove contaminated clothing.

If inhaled:

Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention

On skin contact:

Remove contaminated clothing, footwear, watches, etc. And clean thoroughly before re-using them.

Wash immediately with plenty of water. Seek medical treatment in all cases of irritation or burns.

On contact with eyes:

Rinse immediately with plenty of water for at least 15 minutes. Immediately obtain medical attention.

On ingestion:

Immediately rinse mouth and drink at least 1.5 liters of water. Do NOT induce vomiting. Seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed**Both acute symptoms:**

If inhaled: May cause skin irritation or cough.

On skin contact: May cause skin irritation or corrosion.

On contact with eyes: Causes serious eye damage.

On ingestion: Harmful if swallowed.

Delayed symptoms:

If inhaled: Irritation, cough.

On skin contact: Irritation, redness and skin burns.

On contact with eyes: Pain, tearing, redness, eye damage.

On ingestion: Stomach pains.

4.4. Indication of any immediate medical attention and special treatment needed

Treatment: No information available.

SECTION 5: Fire-Fighting Measures**5.1. Extinguishing media****Suitable extinguishing media:**

All types of extinguishing media are suitable: water, dry powder, carbon dioxide, foam, sand and other.

5.2. Special hazards arising from the substance or mixture

Dangerous products of combustion of the mixture: NO_x, CO₂, CO.

5.3. Advice for fire-fighters

Wear protective working tools such boots, coveralls, gloves, eye and face protection.

EN 469 - Protective clothing for firemen.

SECTION 6: Accidental Release Measures**6.1. Personal precautions, protective equipment and emergency procedures****6.1.1. For non-emergency personnel**

Avoid contact with skin and eyes. Wear personal protective equipment as described under Heading 8.

6.1.2. For emergency responders

Avoid contact with skin and eyes. Wear personal protective equipment as described under Heading 8.

6.2. Environmental precautions

Do not wash product down sewage and drainage systems or into bodies of water.

6.3. Methods and material for containment and cleaning up

Absorb the spillage into sand or other inert material, shovel into suitable containers. If containment is not possible and material enters the drain, dilute as much as possible with water.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage**7.1. Precautions for safe handling**

No special measures necessary provided product is used correctly. In the workplace do not eat, drink or smoke.

Protection against fire and explosion: No special precautions necessary.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored in a cool, dry area in PVC or HDPE containers.

Storage stability:

Keep storage area should be dry, cool, 0 to 35 °C. Away from fire and explosions.

Unsuitable (incompatible) storage of chemicals: strong acids.

7.3. Specific end use(s)

Corrosion inhibitor for boilers condensate line treatment.

The concentrated product is dosed using a dosing pump in the system.

SECTION 8: Exposure Controls/Personal Protection**8.1. Control parameters**

Components with occupational exposure limits: HN 23:2011 Lithuania

Substance		Exposure limits			
Name	CAS No	Long -term effects, mg/l	Long -term effects, ppm	Short-term exposure, mg/l	Short-term exposure, ppm
Polyamine	110-91-8	36	10	72	20
	108-91-8	20	5	40	10

DNEL/DMEL: Information about morpholine:

DNEL long-term, workers, inhalative = 1.04 mg/m³

DNEL long-term, workers, dermal = 91 mg/kg bw

DNEL/DMEL: Information about cyclohexylamine:

DNEL short-term, workers, oral = 5.0 mg/kg bw/d

PNEC: Information about morpholine:

PNEC water (freshwater): 0.1 mg/l

PNEC water (marine water): 0.01 mg/l

PNEC sediment (freshwater): 1.49 mg/kg dwt

PNEC sediment (marine water): 0.129 mg/kg dwt

PNEC soil: 0.239 mg/kg dwt

8.2. Exposure controls**8.2.1. Personal protective equipment**

General safety and hygiene measures: General indoor ventilation. Do not eat, drink or smoke when working with product to avoid contact with skin or mouth. Immediately after working with cement or cement-containing materials, workers should wash or shower or use skin moisturizers. Remove contaminated clothing, footwear, etc., and clean thoroughly before re-using them.

Respiratory protection. Respiratory protection means (respirators, gas mask) with P2 / A2 type filter.

Eye protection. Wear approved glasses or safety goggles to prevent contact with eyes according to EN 166.

Skin protection. Wear rubber gloves according to EN 374, usual work clothes.

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8.2.2. Environmental exposure controls

Do not wash product down sewage and drainage systems or into bodies of water.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Form:	Liquid;
Colour:	Colorless or yellow;
Odour:	Amine smell product;
Odour threshold:	Not determined;
pH, (20 °C):	12,0 ± 1,0;
Melting / freezing point:	-2°C;
Density (20 °C):	0,98 ± 0,05g/cm ³ ;
Solubility:	Soluble in water;
Boiling point/range:	100 ÷ 130 °C;
Flash point:	80°C;
Evaporation rate:	Not determined;
Flammability:	Not self-igniting;
Partitioning coefficient n-octanol/water (log K_{ow}):	Not applicable;
Self ignition:	Not determined;
Thermal decomposition:	Not determined;
Explosion hazard:	Not explosive;
Viscosity, dynamic:	Not determined;
Oxidizing properties:	None.

9.2. Other Information

No data available.

SECTION 10: Stability and Reactivity**10.1. Reactivity**

No hazardous reactions if stored and handled as prescribed/indicated.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated (see Heading 7).

10.3. Possibility of hazardous reactions

The heat released by mixing with strong acids (exothermic reaction).

10.4. Conditions to avoid

Avoid freezing. Keep away from strong acids. Avoid nitrosating agents

10.5. Incompatible materials

Strong acids, nitrosating agents

10.6. Hazardous decomposition productsThe product is stable, but heating may release hazardous decomposition products: CO, CO₂, NO_x.**SECTION 11: Toxicological Information****11.1. Information on toxicological effects****Acute toxicity****Eye contact.** Direct contact with product may cause eye damage.**Skin contact.** Direct contact with product may cause skin irritation or corrosion. Tests with rabbits: LD50 = 500 mg/kg (Morpholine).**Ingestion.** Harmful if swallowed. Tests in rabbits: LD50 = 1,910 mg/kg (Morpholine).**Inhalation.** Harmful if inhaled. Tests in rabbits: LD50 = 8,0 mg/kg (Morpholine).

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11.2. Chronic effects**Inhalation.** Not volatile.**Carcinogenicity.** None.**Mutagenicity.** None.**Reproductive toxicity.** Suspected reproductive toxicity for human.**Contact dermatitis/Sensitizing effect.** Allergic and sensitive people may develop dermatitis.**11.3. Medical conditions aggravated by exposure**

None.

SECTION 12: Ecological Information**12.1. Toxicity**

The product does not have any known adverse effects on the aquatic organisms tested. The addition of large amounts of product to water may cause a rise in pH (alkalinity).

Cyclohexylamine:**Acute toxicity for fish:**LC50 = 180 mg/l, *Salmo gairdneri* 96 h.**Acute toxicity for invertebrates:**EC50=48 mg/l, *Daphnia magna* (*Daphnia magna*) 45 h.**Acute toxicity marine invertebrates:**EC50<1,000 mg/l *Desmodesmus subspicatus* 30 h.**12.2. Persistence and degradability**

Completely soluble in water.

12.3. Bioaccumulative potential

Bioaccumulative potential low.

12.4. Mobility in soil

Not volatile.

12.5. Results of PBT and vPvB assessment

The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).

12.6. Other adverse effects

Additional advice: No data available.

SECTION 13: Disposal Considerations**13.1. Waste treatment methods**

Not classified as harmful to aquatic organisms. Not classified as harmful to birds. Not allowed to dispose of empty containers or waste into the environment. Dispose of according to the local legislation. Empty containers should be returned to the supplier.

SECTION 14: Transport Information

The product is not covered by the international regulation on the transport of dangerous goods (IMDG/ IATA, ADR/RID) and therefore no classification is required. No special precautions are needed apart from those mentioned under Heading 8.

14.1. UN Number

None.

14.2. Proper Shipping Name

None.

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14.3. Transport hazard class(es)

None.

14.4. Packing Group

None.

14.5. Environmental hazards

None.

14.6. Special precautions for user

None.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

None.

SECTION 15: Regulatory Information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010/EC, Regulation (EC) No 1272/2008 [CLP], Regulation No 2015/830/EC.

15.2. Chemical Safety Assessment

Chemical Safety Assessment not required.

SECTION 16: Other Information**IN-ECO® 332** - For professional use only.**IN-ECO® 332** - Safety data sheets and technical information developed by the manufacturer.**Full text of H-Statements:**

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H361 Suspected of damaging fertility or the unborn child .

Abbreviations:

- CAS – Chemical Abstracts Service
- EINECS – European Inventory of Existing Chemical Substances
- GHS – Globally Harmonised System of Classification and Labelling of Chemicals
- CLP – Classification, labelling and packaging of substances and mixtures
- LC50 – Lethal concentration
- DNEL – Derived no-effect level
- PNEC – Predicted No Effect Concentration

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Product IN-ECO® 332 Label

Acute Toxicity 4 oral
Acute Toxicity 4 Skin contact
Acute Toxicity 4 Inhalation
Skin Corrosion 1B
Reproductive toxicity 2

Pictogram:**Signal Word:** Danger.**Dangerous components of the mixture:** Morpholine, cyclohexylamine.**Hazard Statement:**

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements:

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312+P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of the product in combination with any other product or any other process, is the responsibility of the user. It is implicate that the user is responsible for determining appropriate safety measures and for applying the legislation covering his own activities. Safety data sheet available for professional user on request.

