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SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 453/2010)

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1. Product identifier

ODYVAP VA 30 Product name:

Product code: VA3000

UFI Code: GGM1-RWM7-FW3F-YKW1

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

Main category of use: Industrial

Use: Water treatment: Boiler

1.3. Details of the supplier of the safety data sheet

Registered company name: **ODYSSEE ENVIRONNEMENT**

Address: Z.A. La Belle Croix - La Herce - 72510 - REQUEIL - FRANCE

+33 (0) 2 43 44 39 33 Contact: Phone:

> Fax: +33 (0) 2 43 44 45 54 Email: siege@odymail.fr

Website: www.odyssee-environnement.fr

1.4. Emergency telephone number

NHS in England or Wales: 0845 46 47 - NHS 24 in Scotland: 08454 24 24 24

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Acute toxicity, oral, Category 4 (Acute Tox. 4, H302).

Skin corrosion/irritation, Category 1B (Skin Corr. 1B, H314).

Specific target organ toxicity (single exposure), Category 3: Respiratory tract irritation (STOT SE 3, H335).

Hazardous to the aquatic environment, chronic toxicity, Category 2 (Aquatic Chronic 2, H411).

* Allergenic substance(s): Not concerned.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms:



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Hazardous component(s):

EC number:

202-845-2 2-diethylaminoethanol 203-629-0 Cyclohexylamine Octadecylamine 204-695-3

Hazard statements:

H314: Causes severe skin burns and eye damage.

H335: May cause respiratory irritation.

H302: Harmful if swallowed.

H411: Toxic to aquatic life with long lasting effects.

Precautionary statements

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P501: Dispose of contents / container in accordance with internationals / nationals / regionals / Locals regulations.

* Allergenic substance(s): Not concerned.

The mixture does not contain any substances classified as "Substances of Very High Concern" (SVHC) by the European CHemical's Agency (ECHA) under article of REACH: http://echa.europa.eu/fr/candidate-list-table .

The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

No substances fulfil the criteria set forth in annexe II section A of the REACH regulation (EC) n°1907/2006.

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3.2. Mixtures

Identification		(CE) 1272/2008	Nota	%
2-diethylaminoethanol EC number : CAS number : Index number : REACH Reg. Nr :	202-845-2 100-37-8 603-048-00-6 01-2119488937-14-xxxx	GHS02 - GHS09 - GHS05 - GHS07 Dgr Flam. Liq. 3, H226 Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 4, H302 Skin Corr. 1B, H314 STOT SE 3, H335 Eye Dam. 1, H318	[1]	10 < x% ≤ 25
Cyclohexylamine EC number : CAS number : Index number : REACH Reg. Nr :	203-629-0 108-91-8 612-050-00-6 01-2119486803-29-0001	GHS02 - GHS08 - GHS05 - GHS07 Dgr Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Repr. 2, H361f	[1] [2]	0 < x% ≤ 3
Octadecylamine EC number : CAS number : Index number : REACH Reg. Nr :	204-695-3 124-30-1 612-282-00-8 01-2119473804-32-0001	GHS05 - GHS08 - GHS09 Dgr Skin Corr. 2, H315 Eye Dam. 1, H318 Asp. Tox. 1, H304 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410		0 < x% ≤ 2,5

Information about ingredients:

[1] Substance for which maximum workplace exposure limits are available.

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[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

SECTION 4: FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing by an unconscious person.

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4.1. Description of first aid measures

In the event of exposure by inhalation: In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest. If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary. If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

<u>In the event of splashes or contact with eyes</u>: Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open. Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

In the event of splashes or contact with skin: Remove any soiled or splashed clothing immediately. Watch out for any remaining product between skin and clothing, watches, shoes, etc... Wash the skin thoroughly with soap and water. If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

<u>In the event of swallowing</u>: Do not induce vomiting. Do not drink. Do not give the patient anything orally. Seek medical attention immediately, showing the label.

4.2. Most important symptoms and effects, both acute and delayed

No data available.

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

No data available.

SECTION 5: FIREFIGHTING MEASURES

NON-FLAMMABLE PRODUCT

5.1. Extinguishing media

All extinguishing agent are available.

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health. Do not breathe in smoke.

In the event of a fire, the following may be formed : carbon monoxide (CO), carbon dioxide (CO₂), NO_x , nitrous vapors and NH_3 .

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

- For non fire-fighters: Avoid any contact with the skin and eyes. Wear protective clothing, gloves and protective
 equipment and eye / face (eg visor). If a large quantity has been spilt, evacuate all personnel and only allow
 intervention by trained operators equipped with safety apparatus. If vapors are present, wear a breathing
 apparatus.
- For fire-fighters: Fire-fighters will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Prevent any pure product from entering waterways (rivers, soil, ...) and drains. If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures.

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite diatomaceous earth in drums for waste disposal.

Flush the area with plenty of water.

6.3. Methods and material for containment and cleaning up

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Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7: HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled. Avoid exposure to pregnant women and warn women of child-bearing age of the possible risks.

7.1. Precautions for safe handling

Always wash hands after handling. Remove and wash contaminated clothing before re-using. Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Fire prevention: Handle in well-ventilated areas. Prevent access by unauthorised personnel.

Recommended equipment and procedures: For personal protection, see section 8. Observe precautions stated on label and also industrial safety regulations. Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus. Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Prohibited equipment and procedures: No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

Hazardous reactions with strong oxidizing agents, strong acids and organic halogen compounds.

Storage: Keep away from food and drink, including those for animals. Keep the container tightly closed and in a well ventilated place. Protect from frost (between 5°C and 35°C). However, if product is frozen, it finds all its characteristics after reheating. Provide a retention tank adapted.

Packaging: Always keep in packaging made of an identical material to the original. Recommended packing: High Density Polyethylene (PEHD), glass. Unsuitable packaging: Alloys of copper and aluminum.

7.3. Specific end use(s)

No data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION









8.1. Control parameters

Occupational exposure limits:

France: INRS - ED984, Valeurs limites d'exposition professionnelle aux agents chimiques en France - 2016

CAS: 100-37-8: VLEP (8h) = 50 mg/m³ - 10 ppm - Mention: *.

CAS: 108-91-8: VLEP (8h) = $40 \text{ mg/m}^3 - 10 \text{ ppm} - \text{Mention}$: *. R2FTn°230.

CAS: 124-30-1: Non concerné.

EU: 98/24/CE et modifications 91/322/CEE, 2000/39/CE, 2006/15/CE, 2009/161/UE, 2017/164/UE et 2019/1831/UE

CAS: 100-37-8: Not concerned. CAS: 108-91-8: Not concerned. CAS: 124-30-1: Not concerned.

USA: NIOSH - Pocket guide to chemical hazards - 2007

CAS: 100-37-8: REL: TWA = 10 ppm - (50 mg/m³) [skin] - PEL: TWA = 10 ppm - (50 mg/m³) [skin].

CAS: 108-91-8: REL: TWA = 10 ppm - (40 mg/m3).

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CAS: 124-30-1: Not concerned.

UK: HSE - EH40/2005 Workplace exposure limits - 2020

CAS: 100-37-8: Not concerned.

CAS: 108-91-8: VLEP (8h) = 41 mg/m³ - 10 ppm.

CAS: 124-30-1: Not concerned.

8.1.1 - DNEL (Derived No Effect Level)

100-37-8 - 2-diethylaminoethanol

DNEL - Systemic effects/Inhalation/Workers/Long term: 18,3 mg/m³

DNEL - Systemic effects/Inhalation/Workers/Short term : No hazard identified.

DNEL - Systemic effects/Inhalation/Population/Short term: No hazard identified.

DNEL - Systemic effects/Inhalation/Population/Long term: No hazard identified.

DNEL - Local effects/Inhalation/Population/Short term : No hazard identified.

DNEL - Local effects/Inhalation/Population/Long term : No hazard identified.

DNEL - Local effects/Inhalation/Workers/Short term : Low hazard (no threshold derived).

DNEL - Local effects/Inhalation/Workers/Long term: 10.7 mg/m³

DNEL - Systemic effects/Inhalation/Workers/Long term: 2,5 mg/kg (3)

DNEL - Systemic effects/Dermal/Workers/Short term : No hazard identified.

DNEL - Systemic effects/Dermal/Population/Short term : No hazard identified.

DNEL - Systemic effects/Dermal/Population/Long term : No hazard identified.

DNEL - Local effects/Dermal/Population/Short term: No hazard identified.

DNEL - Local effects/Dermal/Population/Long term: No hazard identified.

DNEL - Local effects/Dermal/Workers/Short term : Low hazard (no threshold derived).

DNEL - Local effects/Dermal/Workers/Long term : Low hazard (no threshold derived).

DNEL - Eyes/Population : No hazard identified.

DNEL - Eyes/Workers: Low hazard (no threshold derived).

DNEL - Systemic effects/Oral/Population/Short term: No hazard identified.

DNEL - Systemic effects/Oral/Population/Long term : No hazard identified.

108-91-8 - Cyclohexylamine

DNEL - Systemic effects/Inhalation/Workers/Long term: 5 mg/m³

DNEL - Systemic effects/Inhalation/Workers/Short term: 8,2 mg/m3

DNEL - Systemic effects/Inhalation/Population/Long term: 600 µg/m³

DNEL - Local effects/Inhalation/Workers/Short term : Medium hazard (no threshold derived).

DNEL - Local effects/Inhalation/Workers/Long term: Medium hazard (no threshold derived).

DNEL - Systemic effects/Inhalation/Workers/Long term: 400 µg/kg (3)

DNEL - Systemic effects/Dermal/Workers/Short term: 800 µg/kg (3)

DNEL - Systemic effects/Dermal/Population/Short term: 400 µg/kg (3)

DNEL - Systemic effects/Dermal/Population/Long term: 200 µg/kg (3)

DNEL - Local effects/Dermal/Workers/Short term : Medium hazard (no threshold derived).

DNEL - Local effects/Dermal/Workers/Long term : Medium hazard (no threshold derived).

DNEL - Eyes/Population: Medium hazard (no threshold derived).

DNEL - Eyes/Workers: Medium hazard (no threshold derived).

DNEL - Systemic effects/Oral/Population/Short term: 400 µg/kg (3)

DNEL - Systemic effects/Oral/Population/Long term : 200 µg/kg (3)

124-30-1 - Octadecylamine

DNEL - Systemic effects/Inhalation/Workers/Long term : 380 µg/m³

DNEL - Systemic effects/Inhalation/Workers/Short term: No hazard identified.

DNEL - Systemic effects/Inhalation/Population/Short term: No hazard identified.

DNEL - Systemic effects/Inhalation/Population/Long term: 35 µg/m³

DNEL - Local effects/Inhalation/Population/Short term : No hazard identified.

DNEL - Local effects/Inhalation/Population/Long term: No hazard identified.

DNEL - Local effects/Inhalation/Workers/Short term: 1 mg/m³

DNEL - Local effects/Inhalation/Workers/Long term: 1 mg/m³

DNEL - Systemic effects/Inhalation/Workers/Long term: Medium hazard (no threshold derived).

DNEL - Systemic effects/Dermal/Workers/Short term : Medium hazard (no threshold derived).

DNEL - Systemic effects/Dermal/Population/Short term: Medium hazard (no threshold derived).

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DNEL - Systemic effects/Dermal/Population/Long term: Medium hazard (no threshold derived).

DNEL - Local effects/Dermal/Population/Short term : Medium hazard (no threshold derived).

DNEL - Local effects/Dermal/Population/Long term : Medium hazard (no threshold derived).

DNEL - Local effects/Dermal/Workers/Short term : Medium hazard (no threshold derived).

DNEL - Local effects/Dermal/Workers/Long term : Medium hazard (no threshold derived).

DNEL - Eyes/Population : Medium hazard (no threshold derived).

DNEL - Eyes/Workers : Medium hazard (no threshold derived).

DNEL - Systemic effects/Oral/Population/Short term: No hazard identified.

DNEL - Systemic effects/Oral/Population/Long term: 40 µg/kg (3)

8.1.2 - PNEC (Previsible None Effect Concentration)

100-37-8 - 2-diethylaminoethanol

PNEC - Air: No hazard identified. PNEC - Freshwater: 62,3 µg/L

PNEC - Intermittent discharges - Fresh water : 340 µg/L

PNEC - Sediments - Fresh water: 673 µg/kg (2) PNEC - Sediment - Sea water : 67,3 µg/kg (2)

PNEC - Sea water: 6,23 µg/L PNEC - Soil: 97,7 μg/kg (1)

PNEC - Wastewater treatment plant: 10 mg/L

PNEC - Bioaccumulation : No potential for bioaccumulation.

Biodegradation: Readily biodegradable

108-91-8 - Cyclohexylamine

PNEC - Air: No hazard identified. PNEC - Freshwater: 1632 µg/L

PNEC - Intermittent discharges - Fresh water : 190 µg/L PNEC - Sediments - Fresh water: 4,1815 mg/kg (2)

PNEC - Sediment - Sea water: 410820 µg/kg (2)

PNEC - Sea water: 1,632 µg/L PNEC - Soil: 8051 610 µg/kg (1)

PNEC - Wastewater treatment plant: 22,52 mg/L

PNEC - Bioaccumulation : No potential for bioaccumulation.

Biodegradation: Readily biodegradable

124-30-1 - Octadecylamine

PNEC - Air : No hazard identified.

PNEC - Freshwater: 260 ng/L

PNEC - Intermittent discharges - Fresh water : 1,6 µg/L

PNEC - Sediments - Fresh water: 3,76 mg/kg (2)

PNEC - Sediment - Sea water : 376 µg/kg (2)

PNEC - Sea water : 26 ng/L PNEC - Soil : 10 mg/kg (1)

PNEC - Wastewater treatment plant : 550 µg/L

PNEC - Bioaccumulation : No potential for bioaccumulation.

Biodegradation: Readily biodegradable

(1) "Soil (Sediment Weight)" - (2) "Sediment Weight" - (3) "Body Weight/day" - (4) "Food" - (5) "Irritation (respiratory tract)"

8.2. Exposure controls

Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

Eye / face protection: Avoid contact with eyes. Use eye protectors designed to protect against liquid splashes. Before handling, wear safety goggles with protective sides accordance with standard EN166. In the event of high danger, protect the face with a face shield. Prescription glasses are not considered as protection. Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours. Provide eyewash stations in facilities where the product is handled constantly.

Hand protection: Wear appropriate protective gloves in case of prolonged or repeated contact with the skin. Use suitable

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protective gloves that are resistant to chemical agents in accordance with standard EN374.

<u>Body protection</u>: Avoid skin contact. Wear suitable protective clothing. Wear suitable protective clothing and, in particular, an apron and boots. These items of clothing shall be maintained in good condition and cleaned after use. Work clothing worn by personnel shall be laundered regularly. After contact with the product, all parts of the body that have been soiled must be washed.

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Respiratory protection: Avoid breathing vapours. If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device. Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387: A1 (Brown).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state: Liquid Density: 0,99 Flash point: -

Color: Colorless to pale yellow Boiling point: 100°C Solubility and solvent: Soluble in water

Melting point: 0°C

Odor: Amino Vapour pressure - Self-ignition > 100°C

pH: 11,8 (20 °C): temperature:

9.2. Other information

No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Avoid contact with acids, reducing and oxidizing materials. Keep them away.

10.6. Hazardous decomposition products

Formation of monoxide and carbon dioxide, NO_x, nitrous vapors and NH₃.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Substance(s):

CAS number: 100-37-8 - 2-diethylaminoethanol

Acute toxicity - Oral : LD50 = 1 320 mg/kg bw (Rat).

Acute toxicity - inhalation : LC50 = 4.6 mg/L air (Rat) - 4 Hours. Acute toxicity - Dermal : LD50 = 885 mg/kg bw (Guinea pig).

Acute toxicity - Dermal : LD50 = 1 100 mg/kg bw (Rabbit).

Repeated dose toxicity - Oral : NOAEL = 50 - 400 mg/kg bw/day (Rat). Repeated dose toxicity - Inhalation : LOAEL = 120 mg/m³ air (Rat).

CAS number: 108-91-8 - Cyclohexylamine

Acute toxicity - Oral : LD50 = 432 mg/kg bw (Rat).

Repeated dose toxicity - Oral : NOAEL = 15 mg/kg bw/day (Rat).

Repeated dose toxicity - Oral : NOAEL = 1 000 ppm (Mouse).

Repeated dose toxicity - Oral : LOAEL = 600 ppm (Rat).

CAS number: 124-30-1 - Octadecylamine

Acute toxicity - Oral : LD50 = 2 000 mg/kg bw (Rat). Acute toxicity - Dermal : LD50 = 2 000 mg/kg bw (Rat).

Repeated dose toxicity - Oral : NOAEL = 3.25 mg/kg bw/day (Rat).

Mixture:

Vapors may be irritating to the respiratory system.

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Product is corrosive if swallowed and can cause severe burns of the digestive system.

Product can cause skin burns (corrosive).

Product is a primary irritant to the skin and mucous membranes.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Substance(s):

Aquatic toxicity

CAS number: 100-37-8 - 2-diethylaminoethanol

Short–term toxicity to fish: LC50 = 147 - 1 000 mg/L - 4 Days. Short–term toxicity to fish: LC100 = 215 mg/L - 4 Days.

Short–term toxicity to fish: NOEC = 100 mg/L - 4 Days.

Short–term toxicity to aquatic invertebrates : EC50 = 83.6 - 165 mg/L - 48 Hours.

Short–term toxicity to aquatic invertebrates: EC50 = 304 mg/L - 24 Hours. Short–term toxicity to aquatic invertebrates : EC0 = 62.5 mg/L - 48 Hours.

Short–term toxicity to aquatic invertebrates: EC100 = 250 mg/L - 48 Hours.

Toxicity to aquatic algae and cyanobacteria: EC50 = 28 - 62.3 mg/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria: NOEC = 5 - 10 mg/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria: EC10 = 7.6 - 21.4 mg/L - 72 Hours.

CAS number: 108-91-8 - Cyclohexylamine

Short-term toxicity to fish: LC50 = 19 - 100 mg/L - 14 Days.

Short–term toxicity to aquatic invertebrates : EC50 = 36.3 mg/L - 48 Hours.

Long-term toxicity to aquatic invertebrates : NOEC = 1.6 mg/L - 21 Days.

Long-term toxicity to aquatic invertebrates : EC50 = 3.9 mg/L - 21 Days.

Long-term toxicity to aquatic invertebrates: LC50 = 24.2 mg/L - 21 Days.

Toxicity to aquatic algae and cyanobacteria: EC50 = 29.3 mg/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria: NOEC = 10.3 mg/L - 72 Hours.

Toxicity to microorganisms : EC50 = 2.152 g/L - 3 Hours.

Toxicity to microorganisms: EC10 = 326 mg/L - 3 Hours.

CAS number: 124-30-1 - Octadecylamine

Short–term toxicity to fish : LC50 = $60 - 4210 \mu g/L - 4 Days$.

Short–term toxicity to fish: LC100 = 1.12 - 5.62 mg/L - 4 Days.

Short–term toxicity to fish : NOEC = $630 - 1780 \,\mu g/L - 4 \,Days$.

Short-term toxicity to aquatic invertebrates : EC50 = 320 - 980 μg/L - 48 Hours.

Short–term toxicity to aquatic invertebrates : EC100 = $800 - 2000 \,\mu\text{g/L} - 48 \,\text{Hours}$. Short–term toxicity to aquatic invertebrates : EC10 = 230 - 760 μg/L - 48 Hours.

Long-term toxicity to aquatic invertebrates : NOEC = 13 μ g/L - 21 Days.

Long-term toxicity to aquatic invertebrates: LOEC = 32 µg/L - 21 Days.

Long-term toxicity to aquatic invertebrates : EC50 = 240 - 360 μ g/L - 21 Days.

Toxicity to aquatic algae and cyanobacteria : EC50 = $80 - 460 \mu g/L - 72 Hours$.

Toxicity to aquatic algae and cyanobacteria: NOEC = 30 - 150 µg/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria : LOEC = 60 - 300 μg/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria : EC10 = 29 μ g/L - 72 Hours.

Toxicity to aquatic algae and cyanobacteria : EC0 = 10 μ g/L - 72 Hours.

Toxicity to microorganisms: EC50 = 14 - 490.1 mg/L - 3 Hours.

Toxicity to microorganisms : EC10 = 5.5 - 7 mg/L - 3 Hours.

Sediment toxicity: NOEC = 188 mg/kg sediment dw - 28 Days.

Sediment toxicity: LOEC = 455 mg/kg sediment dw - 28 Days.

Sediment toxicity: EC50 = 412 mg/kg sediment dw - 28 Days.

Toxicity to terrestrial macroorganisms except arthropods: NOEC = 200 mg/kg soil dw - 56 Days.

Toxicity to terrestrial macroorganisms except arthropods: LOEC = 500 mg/kg soil dw - 56 Days.

Toxicity to terrestrial macroorganisms except arthropods: LC10 = 1 g/kg soil dw - 56 Days.

Toxicity to terrestrial macroorganisms except arthropods: LC50 = 1 g/kg soil dw - 56 Days.

Toxicity to terrestrial plants: NOEC = 100 mg/kg soil dw - 20 Days.

Mixture:

COD will remain high, even after neutralization. Do not pour into drains or waterways. No aquatic toxicity data available for the mixture. At normal dose rate, will be assimilated in physico-chemical or biological wastewater treatment plants after acclimatization.

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Acute Toxicity:

- Fish toxicity: LC50 = 2,88 mg/L - Species: Pimephales promelas « Fathead Minnow »

Duration of exposure: 96 h (EPA Method 2000)

- Crustacean toxicity: EC50 = 6,25 mg/L - Species: Criodaphnia Dubia - Duration of exposure: 48 h (EPA Method 2002)

12.2. Persistence and degradability

Classified as cationic surface-active agent, considered as more than 90 % biodegradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste: Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals. Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company. Do not contaminate the ground or water with waste, do not dispose of waste into the environment. At normal dose rate, will be assimilated in physico-chemical or biological wastewater treatment plants after acclimatization.

Soiled packaging: Do not reuse empty containers. Empty container completely. Keep label(s) on container. Give to a certified disposal contractor.

SECTION 14: TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2019 - IMDG 2014 - OACI/IATA 2019).

14.1. UN number: 2735

14.2. UN proper shipping name

UN2735=CORROSIVE LIQUID AMINES, N.O.S. (2-diethylaminoethanol - Cyclohexylamine)

14.3. Transport hazard class(es):

14.4. Packing group: Ш

14.5. Environmental hazards:

14.6. Special precautions for user:





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ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel	
	8	C7	II	8	80	1 L	274	E2	2	Е	
IMDG	Class	2° Label	Pack gr.	LQ	EMS	Provis.	EQ				
	8	-	II	1 L	F-A, S-B	274	E2				
IATA	Class	2° Label	Pack gr.	Passager	Passager	Cargo	Cargo	Note		EQ	
	8	-	II	851	1 L	855	30 L	A3 A803		E2	
	8	-	Ш	Y840	0.5 L	-	-	A3 A803		E2	

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1272/2008 as amended - Regulation (EU) No 2018/1480 (ATP 13) on classification, labelling and packaging of substances and mixtures.

Particular provisions: No data available.

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WGK Classification

WGK2: Obviously hazardous to water.

15.2. Chemical safety assessment

No data available.

SECTION 16: OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture

Custom code / Combined Nomenclature: 3824.99.45 - Anti-scaling and similar compounds

Wording of the phrases mentioned in section 3

H226: Flammable liquid and vapour.

H302: Harmful if swallowed.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H331: Toxic if inhaled.

H335: May cause respiratory irritation.

H312: Harmful in contact with skin.

H361f: Suspected of damaging fertility.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H373: May cause damage to organs through prolonged or repeated exposure exposure cause the hazard.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Abbreviations

ADR: European agreement concerning the international carriage of dangerous goods by Road.

IMDG: International Maritime Dangerous Goods. IATA: International Air Transport Association. ICAO: International Civil Aviation Organisation

RID: Regulations concerning the International carriage of Dangerous goods by rail.

WGK: Wassergefahrdungsklasse (Water Hazard Class).

GHS07: Toxic, Irritant, narcotic

GHS05: Corrosive

GHS09: Environmentally damaging

This safety data sheet should be used in conjunction with the technical notice, but does not replace it. The information provided is based upon our knowledge of this product at the time of publication. The information is given in good faith. The attention of users is drawn to the possible risks incurred by using the product for purposes other than that for which it is recommended. This does not in any way excuse the user from knowing and applying all the regulations governing its activity. It is the sole responsibility of the user to take all precautions required in handling the product.