

NOVADAN®

SAFETY DATA SHEET

Ro Alkazym

NOVADAN®

SDS according to Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex II-EU

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Date issued 29.05.2013

Revision date 24.03.2015

1.1. Product identifier

Product name Ro Alkazym

Article no. 31118, 31157

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

Product group Enzymatic cleaner for membranes.

Use of the substance/preparation Membrane cleaning agent.

Relevant identified uses SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU4 Manufacture of food products

PC35 Washing and cleaning products (including solvent based products)

PROC2 Use in closed, continuous process with occasional controlled exposure

ERC9A Wide dispersive indoor use of substances in closed systems

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Company name Novadan ApS

Postal address Platinvej 21

Postcode DK-6000

City Kolding

Country Danmark

Tel + 45 76 34 84 00

Fax + 45 75 50 43 70

E-mail sds@novadan.dk

Website <http://www.novadan.dk>

1.4. Emergency telephone number

Emergency telephone Link to national poison centers:
http://echa.europa.eu/help/nationalhelp_contact_en.asp

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to 67/548/EEC or 1999/45/EC Xn; R22,R41

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Eye Dam. 1;H318;

Skin Irrit. 2;H315;

Acute tox. 4;H302;

Substance / mixture hazardous For further information, please refer to section 11.

properties

2.2. Label elements**Hazard Pictograms (CLP)**

Composition on the label

Signal word

Hazard statements

Precautionary statements

Tetrasodium-EDTA, Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts

Danger

H318 Causes Serious eye damage.

H315 Causes skin irritation.

H302 Harmful if swallowed.

P280 Wear eye protection/protective gloves.

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.

2.3. Other hazards

Description of hazard

Health effect

Harmful: possible risk of irreversible effects if swallowed.

May cause permanent damage to the eyes, especially if the product is not washed away IMMEDIATELY.

Causes skin irritation.

Dust may irritate throat and respiratory system and cause coughing.

See section 11 for additional information on health hazards.

Environmental effects

This product does not contain any PBT or vPvB substances.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Substance	Identification	Classification	Contents
Tetrasodium-EDTA	CAS no.: 64-02-8 EC no.: 200-573-9 Index no.: 607-428-00-2 Registration number: 01-2119486762-XXXX	Xi; R41 Xn; R20/22 Eye Dam. 1; H318; Acute tox. 4; H332; Acute tox. 4; H302;	15 - 30 %
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	CAS no.: 68411-30-3 EC no.: 270-115-0 Registration number: 01-2119489428-22-xxxx	Xn; R22,R37/38,R41 Aquatic Chronic 3;H412; Skin Irrit. 2;H315; Eye Dam. 1;H318; Acute tox. 4;H302;	15 - 30 %
Sodium carbonate	CAS no.: 497-19-8 EC no.: 207-838-8 Index no.: 011-005-00-2	Xi; R36 Eye Irrit. 2; H319	5 - 15 %
Substance comments	15-30%: tetrasodium-EDTA , anionic surfactant , phosphates , <1% : Enzymes . The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.		

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

General

Remove affected person from source of contamination.

Inhalation

Fresh air. Get medical attention if any discomfort continues.

Skin contact	Remove contaminated clothes and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.
Eye contact	Important! Immediately rinse with water for at least 15 minutes. May cause permanent damage if eye is not immediately irrigated. Make sure to remove any contact lenses from the eyes before rinsing. Immediately transport to hospital or eye specialist. Continue flushing during transport to hospital.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Get medical attention if any discomfort continues.
Recommended personal protective equipment for first aid responders	Wear necessary protective equipment. For personal protection, see section 8.

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

Acute symptoms and effects	As described in section 2.2 and 2.3.
Delayed symptoms and effects	No known long term effects.

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

Other Information	In case of unconsciousness, ingestion or eye contact: Immediately call a doctor / ambulance. Show this safety data sheet.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
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5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	This product is not flammable. During fire, gases hazardous to health may be formed.
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5.3. Advice for firefighters

Personal protective equipment	Wear necessary protective equipment. For personal protection, see section 8.
Fire fighting procedures	Reference is made to the company fire procedure. If risk of water pollution occurs, notify appropriate authorities. Avoid breathing fire vapours.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures	Look out! The product is hazardous to your health. Avoid inhalation of dust or aerosols and contact with skin and eyes. In case of inadequate ventilation, use respiratory protection. For personal protection, see section 8.
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6.2. Environmental precautions

Environmental precautionary measures	Avoid discharge into water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.
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6.3. Methods and material for containment and cleaning up

Cleaning method	Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Wash contaminated area with water.
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6.4. Reference to other sections

Other instructions	See section 8 and section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Avoid handling which leads to dust formation. Avoid inhalation of dust and contact with skin and eyes. Use work methods which minimize spreading of vapours, dust, smoke, aerosols, splashes etc. to the extent technically possible.
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7.2. Conditions for safe storage, including any incompatibilities

Storage Store in tightly closed original container in a dry and cool place. Water reactive storage.

Conditions for safe storage

Storage Stability Durability: 24 months.

7.3. Specific end use(s)

Specific use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure limit values

Substance	Identification	Value	TWA Year
Tetrasodium-EDTA	CAS no.: 64-02-8 EC no.: 200-573-9 Index no.: 607-428-00-2 Registration number: 01-2119486762-XXXX		
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	CAS no.: 68411-30-3 EC no.: 270-115-0 Registration number: 01-2119489428-22-xxxx		
Mineral dust, inert		8-hour TWA: mg/m ³ 8-hour TWA: 10	2005

DNEL / PNEC from substances

Substance	Tetrasodium-EDTA
DNEL	Group: Worker Exposure route: Inhalation Exposure frequency: Long term (repeated) Type of effect: Local effect Value: 2,5 mg/m ³
DNEL	Group: Worker Exposure route: Inhalation Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 2,5 mg/m ³
DNEL	Group: Worker Exposure route: Inhalation Exposure frequency: Short term (acute) Type of effect: Local effect Value: 2,5 mg/m ³
DNEL	Group: Worker Exposure route: Inhalation Exposure frequency: Short term (acute) Type of effect: Systemic effect Value: 2,5 mg/m ³
DNEL	Group: Consumer Exposure route: Inhalation Exposure frequency: Long term (repeated) Type of effect: Local effect Value: 1,5 mg/m ³
DNEL	Group: Consumer Exposure route: Inhalation Exposure frequency: Long term (repeated)

	Type of effect: Systemic effect Value: 1,5 mg/m3
DNEL	Group: Consumer Exposure route: Inhalation Exposure frequency: Short term (acute) Type of effect: Local effect Value: 1,5 mg/m3
DNEL	Group: Consumer Exposure route: Inhalation Exposure frequency: Short term (acute) Type of effect: Systemic effect Value: 1,5 mg/m3
DNEL	Group: Consumer Exposure route: Oral Exposure frequency: Long term (repeated) Type of effect: Systemic effect Value: 25 mg/kg body weight/day
PNEC	Exposure route: Air Value: 1,2 mg/l
PNEC	Exposure route: Sewage treatment plant STP Value: 43 mg/l
PNEC	Exposure route: Soil Value: 0,72 mg/kg
PNEC	Exposure route: Water Value: 2,2 mg/l
Substance	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
DNEL	Group: Worker Exposure route: Dermal Exposure frequency: Long term (repeated) Value: 170 mg/kg
DNEL	Group: Worker Exposure route: Inhalation Exposure frequency: Long term (repeated) Value: 12 mg/mg
DNEL	Group: Consumer Exposure route: Dermal Exposure frequency: Long term (repeated) Value: 85 mg/kg
DNEL	Group: Consumer Exposure route: Oral Exposure frequency: Long term (repeated) Value: 3 mg/kg
PNEC	Exposure route: Sewage treatment plant STP Value: 3,43 mg/l
PNEC	Exposure route: Freshwater sediments Value: 8,1 mg/l
PNEC	Exposure route: Saltwater Value: 0,0268 mg/l
PNEC	Exposure route: Freshwater Value: 0,268 mg/l
PNEC	Value: 0,0167 mg/l Remarks: Intermittent release

8.2. Exposure controls

Recommended monitoring procedures

Not known.

Limitation of exposure on workplace

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. An eye wash bottle must be available at the work site.

Safety signs



Respiratory protection

Respiratory protection

Under normal conditions of use respiration protection should not be required. No specific recommendation made, but protection against nuisance dust must be used when the general level exceeds 10 mg/m³. Use respiratory equipment with particle filter, type P2.

Hand protection

Hand protection

Use protective gloves made of: Butyl rubber. Neoprene. Nitrile.

Breakthrough time

Breakthrough time for nitrile rubber, neoprene and butyl rubber is approx. 3 hours.

The recommendation is a qualified estimate based on knowledge of the components. Elastic gloves stretch when used as glove thickness and thus the breakthrough time reduced.

The EN 374-3 standard test is performed at 23°C, but the practical temperature of the glove is approx. 35°C.

The breakthrough time of the different glove guides, is therefor reduced by a factor 3.

Eye / face protection

Eye protection

Wear approved safety goggles. (EN 166).

Thermal hazards

Thermal hazards

See section 5.

Appropriate environmental exposure control

Environmental exposure controls

See section 6.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Powder, dust.
Colour	White.
Odour	Slight odour.
Comments, Odour limit	Not relevant.
Comments, pH (as supplied)	Not relevant.
pH (aqueous solution)	Value: ~ 9,5
Comments, pH (aqueous solution)	1%
Comments, Melting point / melting range	Not relevant.
Comments, Boiling point / boiling range	Not relevant.
Comments, Flash point	Not relevant.
Comments, Evaporation rate	Not relevant.
Flammability (solid, gas)	Not relevant.
Comments, Explosion limit	Not relevant.
Comments, Vapour pressure	Not relevant.
Comments, Vapour density	Not relevant.
Bulk density	Value: ~ 0,85 kg/l.
Solubility description	Completely soluble in water.

Comments, Partition coefficient: n-octanol / water	Not relevant.
Comments, Spontaneous combustability	Not relevant.
Comments, Decomposition temperature	Not relevant.
Comments, Viscosity	Not relevant.
Explosive properties	Not explosive.
Oxidising properties	Does not meet the criteria for oxidising.

9.2. Other information

Other physical and chemical properties

Comments	No data recorded.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable under normal temperature conditions and recommended use.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Reacts violently with strong acids.
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10.4. Conditions to avoid

Conditions to avoid	Do not store in damp conditions or areas of high humidity.
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10.5. Incompatible materials

Materials to avoid	No information required.
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10.6. Hazardous decomposition products

Hazardous decomposition products	In case of fire, toxic gases (CO, CO ₂ , NO _x) may be formed.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological Information:

Other toxicological data	Toxicological tests on the product has not been performed.
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Toxicological data for substances

Substance	Tetrasodium-EDTA
LD50 oral	Value: > 2000 mg/kg Animal test species: Rat Test reference: BASF
LC50 inhalation	Value: 1000 - 5000 mg/m ³ Animal test species: Rat Duration: 6 h Test reference: OECD Guideline 403
Skin corrosion / irritation	Species: Rabbit. Result: Non irritation to skin. Method of testing: Not known.
Serious eye damage / irritation	Species: Rabbit. Result: Irreversible eye damage. Method of testing: Not known.
Respiratory or skin sensitisation	Species: Guinea Pig. Result: Not Sensitising. Method of testing: OECD 406
Substance	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
LD50 oral	Value: 1086 - 1980 mg/kg bw Animal test species: Rat Duration: single dose Test reference: OECD 401

LD50 oral	Comments: SIDS Value: 2160-2250 mg/kg bw Animal test species: mouse Duration: single dose Test reference: -
LD50 dermal	Comments: SIDS Value: > 2000 mg/kg bw Animal test species: rat Duration: single dose Test reference: OECD 402
Skin corrosion / irritation	Comments: SIDS Species: Rabbit. Result: Skin irritation. Duration: 4h. Method of testing: OECD 404 . (SIDS)
Serious eye damage / irritation	Species: Rabbit. Result: Irritation to eye. Duration: -. Method of testing: OECD 405 . (SIDS)

Other information regarding health hazards

General Harmful if swallowed.

Potential acute effects

Inhalation	Aerosols irritate the respiratory system, and may cause coughing and difficulties in breathing.
Skin contact	Irritating to skin.
Eye contact	May cause permanent damage to eyes, especially if the product is not washed away IMMEDIATELY. Contact with concentrated chemical may very rapidly cause severe eye damage, possibly loss of sight.
Ingestion	Harmful: possible risk of irreversible effects if swallowed. Ingestion may cause irritation of the gastrointestinal tract, vomiting and diarrhoea.

Symptoms of Exposure

Symptoms of overexposure No specific symptoms noted.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	The product is not expected to be hazardous to the environment. May lead to a local change in acidity in the aquatic environment which may have adverse effects on aquatic organisms.
Aquatic, comments	No data available for the product.

Toxicological data for substances

Substance	Tetrasodium-EDTA
Acute aquatic, fish	Value: > 100 mg/l Method of testing: LC50 - OPP 72-1 Species: Lepomis macrochirus Duration: 96 h
Acute aquatic, algae	Value: > 100 mg/l Method of testing: EC50 - Directive 88/302/EØF - C Species: Scenedesmus subspicatus Duration: 72 h
Acute aquatic, Daphnia	Value: > 100 mg/l Method of testing: EC50 - DIN 38412 -11 Species: Daphnia magna Duration: 48 h
Mobility, description	Mobility, description: The product is miscible with water. May spread in water systems.

Persistence and degradability	The product contains substances which are not expected to be biodegradable.
Bioaccumulation	Will not bio-accumulate.
Bioconcentration factor (BCF)	Value: ~ 1,8 Method of testing: Lepomis macrochirus (28 d)
Result of PBT assessment for the substance	Not Classified as PBT/vPvB by current EU criteria.
Substance	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
Acute aquatic, fish	Value: 1,67 mg/l Method of testing: LC50 Duration: 96h
Acute aquatic, algae	Value: 29 mg/l Method of testing: EC50 Duration: 96h
Acute aquatic, Daphnia	Value: 2,9 mg/l Method of testing: EC50 Duration: 48h
Mobility, description	Mobility, description: The product is water soluble and may spread in water systems.
Persistence and degradability	The product is easily biodegradable.
Biodegradability	Value: > 98 Test period: 29d Method of testing: OECD (301D og 303A)
Bioaccumulation	Will not bio-accumulate.
Result of PBT assessment for the substance	Not Classified as PBT/vPvB by current EU criteria.

12.2. Persistence and degradability

Chemical oxygen demand (COD)	Value: 550-600
Comments COD	mg O ₂ / g.
Persistence and degradability	The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential	The product does not contain any substances expected to be bioaccumulating.
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12.4. Mobility in soil

Mobility	The product is water soluble and may spread in water systems.
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12.5. Results of PBT and vPvB assessment

PBT assessment results	Not Classified as PBT/vPvB by current EU criteria.
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12.6. Other adverse effects

Environmental details, summation	For this product no classification is required for environmental hazards.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point. Dispose of waste and residues in accordance with local authority requirements. -
Product classified as hazardous waste	Yes
Packaging classified as hazardous waste	Yes
EWC waste code	EWC: 0706 wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
Other Information	When handling waste, consideration should be made to the safety precautions

applying to handling of the product. Waste code applies to product remnants in pure form.

SECTION 14: Transport information

14.1. UN number

Comments The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
The labelling "Eye Dam 1 - H318" does not require classification as dangerous goods.

14.2. UN proper shipping name

Comments Not relevant.

14.3. Transport hazard class(es)

Comments Not relevant.

14.4. Packing group

Comments Not relevant.

14.5. Environmental hazards

Comments Not relevant.

14.6. Special precautions for user

Special safety precautions for user Not relevant.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Additional information.

Additional information. Not relevant.

SECTION 15: Regulatory information

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

EEC-directive Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents.
Dangerous Preparations Directive 1999/45/EC.
Dangerous Substance Directive 67/548/EEC.

Other Label Information For professional users only.

Biocides No

Legislation and regulations The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242).
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).

15.2. Chemical safety assessment

Chemical safety assessment performed No

SECTION 16: Other information

Hazard symbol



R-phrases	R22 Harmful if swallowed. R41 Risk of serious damage to eyes.
S-phrases	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S39 Wear eye/face protection.
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]	Acute tox. 4; H302; Skin Irrit. 2; H315; Eye Dam. 1; H318;
List of relevant R-phrases (under headings 2 and 3).	R20/22 Harmful by inhalation and if swallowed. R36 Irritating to eyes. R22 Harmful if swallowed. R37/38 Irritating to respiratory system and skin. R41 Risk of serious damage to eyes.
List of relevant H-phrases (Section 2 and 3).	H318 Causes Serious eye damage. H302 Harmful if swallowed. H412 Harmful to aquatic life with long lasting effects. H315 Causes skin irritation. H332 Harmful if inhaled. H319 Causes serious eye irritation.
Training advice	No particular training or education is required but the user must be familiar with this SDS. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.
Information which has been added, deleted or revised	Change to Sections: 2
Version	2
Responsible for safety data sheet	Novadan ApS
Prepared by	ALM