1. Product and Company Identifaction

Product Name	RXSOL ORG SFN 2448
Part Number	RXSOL-10-3258-025

Company Details:....

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M factors and ATEs	Add. Information
2-aminoethanol 141-43-5 205-483-3 01-2119486455-28	20- 40 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Acute Tox. 4, Inhalation, H332 STOT SE 3, H335 Aquatic Chronic 3, H412	STOT SE 3; H335; C >= 5 % inhalation: ATE = 1,5 mg/l; dust/mist	EU OEL

3. Hazards Identification

Classification (CLP)

Acute toxicity	Category 4
H332 Harmful if inhaled.	
Route of Exposure: Inhalation	

Skin corrosion	Category 1B
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

Label elements

Label elements (CLP)

Contains	2-aminoethanol
Signal word	Danger
Hazard statement	H314 Causes severe skin burns and eye damage.
	H332 Harmful if inhaled.
	H335 May cause respiratory irritation.
	H412 Harmful to aquatic life with long lasting effects.
Precautionary statement	P260 Do not breathe mist/vapours.
Prevention	P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.
Response	
	Rinse skin with water [or 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.
	P310 Immediately call a POISON CENTER or doctor.
Other hazards	None if used properly.
	The classification as corrosive H314 category 1 is due to the extreme pH.
	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

4. First Aid Measures

Description of first aid measures

Inhalation	Fresh air, oxygen supply, warmth; seek specialist medical attention.
Skin contact	Immediately rinse with copious amounts of running water (for 10 minutes). Remove contaminated clothes. Put on a bandage with sterile gauze, seek medical attention in hospital.
Eye contact	Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.

Ingestion	Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting. Immediate medical treatment necessary.
Most important symptoms and effects, both acute and delayed	RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.
Indication of any immediate medical attention and special treatment needed	See section: Description of first aid measures

5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media	All common extinguishing agents are suitable.
Extinguishing media which must not be used for safety reasons	None known
Special hazards arising from the substance or mixture	Formation of toxic gases is possible during heating or in fires.
Advice for firefighters	Wear self-contained breathing apparatus. Wear protective equipment.
Additional information	Cool endangered containers with water spray jet.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with skin and eyes.
Environmental precautions	Do not empty into drains / surface water / ground water.
Methods and material for containment and cleaning up	Remove with liquid-absorbing material (sand, peat, sawdust). Dispose of contaminated material as waste according to Section 13.
Reference to other sections	See advice in section 8

7. Handling and Storage

Precautions for safe handling	Avoid skin and eye contact. Ensure that workrooms are adequately ventilated. When diluting/dissolving always slowly stir the product into water. Do not add product to hot water or hot solutions. Heating with vigorous, sudden delayed boiling is possible! Scalding hazard! See advice in section 8
Hygiene measures	Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working. Wash contaminated clothing before reuse. The workplace should be equipped with an emergency shower and eye-rinsing facility.
Conditions for safe storage, including any incompatibilities	Store in sealed original container. Store at room temperature.
Specific end use(s)	Corrosion Protection Agents for Metals

8. Exposure controls and personal protection

Control parameters

Occupational Exposure Limits

Ingredient [Regulated substance]	ppm	mg/m3	Value type	Short term exposure limit category / Remarks	Regulatory list
2-Aminoethanol 141-43-5 [2-AMINOETHANOL]	3	7,6	Short Term Exposure Limit (STEL)	Indicative	ECTLV
2-Aminoethanol 141-43-5 [2-AMINOETHANOL]	1	2,5	Time Weighted Average (TWA)	Indicative	ECTLV
2-Aminoethanol 141-43-5			Short Term Exposure Classification	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
2-Aminoethanol 141-43-5	0,2	0,5	Exposure limit(s)	1 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
2-Aminoethanol 141-43-5			Skin designation	Can be absorbed through the skin.	TRGS 900

Predicted No-Effect Concentration (PNEC)

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
2-Aminoethanol 141-43-5	aqua (freshwater)		0,07 mg/l				
2-Aminoethanol 141-43-5	aqua (marine water)		0,007 mg/l				
2-Aminoethanol 141-43-5	aqua (intermittent releases)		0,028 mg/l				
2-Aminoethanol 141-43-5	sediment (freshwater)			0,357 mg/kg			

2-Aminoethanol 141-43-5	sediment (marine water)		0,036 mg/kg
2-Aminoethanol 141-43-5	Soil		1,29 mg/kg
2-Aminoethanol 141-43-5	sewage treatment plant (STP)	100 mg/l	

Derived No-Effect Level (DNEL)

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2-Aminoethanol 141-43-5	Workers	inhalation	Long term exposure - systemic effects		1 mg/m3	
2-Aminoethanol 141-43-5	Workers	inhalation	Long term exposure - local effects		0,51 mg/m3	
2-Aminoethanol 141-43-5	Workers	dermal	Long term exposure - systemic effects		3 mg/kg	
2-Aminoethanol 141-43-5	General population	dermal	Long term exposure - systemic effects		1,5 mg/kg	
2-Aminoethanol 141-43-5	General population	oral	Long term exposure - systemic effects		1,5 mg/kg	
2-Aminoethanol 141-43-5	General population	inhalation	Long term exposure - systemic effects		0,18 mg/m3	
2-Aminoethanol 141-43-5	General population	inhalation	Long term exposure - local effects		0,28 mg/m3	

Biological Exposure Indices	None

Exposure controls

Engineering controls	Ensure good ventilation/suction at the workplace.
Respiratory protection	In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387). This recommendation should be matched to local conditions.
Hand protection	Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Polychloroprene (CR; >= 1 mm thickness) or natural rubber (NR; >=1 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polychloroprene (CR; >= 1 mm thickness) or natural rubber (NR; >=1 mm thickness) This information is

	based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.
Eye protection	Goggles which can be tightly sealed. Protective eye equipment should conform to EN166.
Skin protection	Protective clothing that covers arms and legs. Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.
Advices to personal protection equipment	The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

9. Physical and chemical properties

Physical state	Liquid
Delivery form	Liquid
Colour	Light yellow
Odor	Amine-like
Melting point	Not applicable, Product is a liquid
Solidification temperature	212 °F)no method
Flammability	Non flammable product (flash point is greater than 93°C)
Explosive limits	Not applicable, Aqueous solution
Flash point	> 100 °C (> 212 °F)
Auto-ignition temperature	Not applicable, Aqueous solution
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH (20 °C (68 °F); Conc.: 1,0 % product; Solvent: Demineralised water)	10,70 - 11,30 PH-value, potentiometer
Vapour pressure (20 °C (68 °F))	123 mbar;None
Vapour pressure (55 °C (131 °F)	161 mbar;None
Density (20 °C (68 °F))	1,00 - 1,05 g/cm3
Relative vapour density: (20 °C)	< 1
Particle characteristics	Not applicable Product is a liquid

10. Stability and reactivity

Reactivity	Reaction with strong acids.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	See section reactivity
Conditions to avoid	No decomposition if used according to specifications.
Incompatible materials	See section reactivity.
Hazardous decomposition products	None if used for intended purpose. In case of fire toxic gases can be released.

11. Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity

The mixture is classified based on calculation method referring to the classified substances present in the mixture

Hazardous substances	Value type	Value	Species	Method
CAS-No.				
2-aminoethanol	LD50	1.515 mg/kg	Rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
141-43-5				

Acute dermal toxicity

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances	Value type	Value	Species	Method
CAS-No.				
2-aminoethanol	LD50	1.025 mg/kg	Rabbit	Not specified
141-43-5				

Acute inhalative toxicity

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances	Value type	Value	Test atmosphere	Exposure time	Species	Method
CAS-No.						
2-aminoethanol	Acute toxicity estimate (ATE)	1,5 mg/l	dust/mist			Expert judgement
141-43-5						
2-aminoethanol	LC50	1 - 5 mg/l		4 h	Rat	Not specified
141-43-5						

Skin corrosion/irritation

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances	Result	Exposure time	Species	Method
CAS-No.				

2-aminoethanol 141-43-5	corrosive	4 h	Rabbit	Equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation

The mixture is classified based on calculation method referring to the classified substances present in the mixture

Hazardous substances **CAS-No.**	**Result**	**Exposure time**	**Species**	**Method**
2-aminoethanol 141-43-5	corrosive		Rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization

The mixture is classified based on threshold limits referring to the classified substances present in the mixture

Hazardous substances **CAS-No.**	**Result**	**Test type**	**Species**	**Method**
2-aminoethanol 141-43-5	Not sensitising	Guinea pig maximisation test	Guinea pig	Not specified

Germ cell mutagenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances **CAS-No.**	**Result**	**Type of study / Route of administration**	**Metabolic activation / Exposure time**	**Species**	**Method**
2-aminoethanol 141-43-5	Negative	bacterial reverse mutation assay (e.g Ames test)	with and without	Guinea pig	equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-aminoethanol 141-43-5	Negative	in vitro mammalian chromosome aberration test	without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2-aminoethanol 141-43-5	Negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2-aminoethanol 141-43-5	Negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Carcinogenicity			No data available.		

Reproductive toxicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances **CAS-No.**	**Result / Value**	**Test type**	**Route of application**	**Species**	**Method**
2-aminoethanol 141-43-5	NOAEL P 300 mg/kg NOAEL F1 1.000	Two generation study	oral: feed	Rat	OECD Guideline 416 (Two Generation Reproduction

	mg/kg				Toxicity Study)
	NOAEL F2 1.000 mg/kg				

STOT-single exposure No data available.

STOT-repeated exposure

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances	Result / Value	Test type	Route of application	Species	Method
CAS-No.					
2-aminoethanol	NOAEL 300 mg/kg	oral: feed	> 75 d daily	Rat	other guideline
141-43-5					

Aspiration hazard No data available.

Information on other hazards Not applicable

12. Ecological information

General ecological information: Do not empty into drains / surface water / ground water.
Locally harmful for aquatic and landliving organisms because of high pH and corrosive properties.

Toxicity

Toxicity (Fish)

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances	Value type	Value	Exposure time	Species	Method
CAS-No.					
2-aminoethanol	LC50	349 mg/l	96 h	Cyprinus carpio	EU Method C.1 (Acute Toxicity for Fish)
141-43-5					
2-aminoethanol	NOEC	1,24 mg/l	41 h	Oryzias latipes	OECD Guideline 210 (fish early lite stage toxicity test)
141-43-5					

Toxicity (Daphnia)

The mixture is classified based on calculation method referring to the classified substances present in the mixture

Hazardous substances	Value type	Value	Exposure time	Species	Method
CAS-No.					
2-aminoethanol	EC50	27,04 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
141-43-5					

Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances	Value type	Value	Exposure time	Species	Method
CAS-No.					
2-aminoethanol	NOEC	0,85 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
141-43-5					

Toxicity (Algae)

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances	Value type	Value	Exposure time	Species	Method
CAS-No.					
2-aminoethanol	EC50	2,8 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
141-43-5					
2-aminoethanol	EC10	0,7 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
141-43-5					

Endocrine disrupting properties	Not applicable
Other adverse effects	If acidic or alkaline products are discharged into wastewater installations care must be taken that the discharged wastewater has a pH in the range pH 6 - 10, as pH variations could cause disorders in wastewater channels and biological sewage treatment plants. The local discharge regulations take precedence.

13. Disposal considerations

Waste treatment methods

Product disposal	In consultation with the responsible local authority, must be subjected to special treatment.
Waste code	EWC/EAK 070608 The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

14. Transport information

UN number or ID number	
ADR	2491
RID	2491
ADN	2491
IMDG	2491
IATA	2491
UN proper shipping name	

ADR	ETHANOLAMINE, SOLUTION
RID	ETHANOLAMINE, SOLUTION
ADN	ETHANOLAMINE, SOLUTION
IMDG	ETHANOLAMINE, SOLUTION
IATA	Ethanolamine, solution
Transport hazard class(es)	
ADR	8
RID	8
ADN	8
IMDG	8
IATA	8
Packing group	
ADR	III
RID	III
ADN	III
IMDG	III
IATA	III
Environmental hazards	
ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable
Special precautions for user	
ADR	not applicable Tunnel code: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable
Maritime transport in bulk according to IMO instruments	Not applicable

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture	
Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009)	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012)	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021)	Not applicable
Chemical safety assessment	A chemical safety assessment has not been carried out.
National regulations/information (Germany)	
WGK	WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2).
Storage class according to TRGS 510	8A

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting

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