

1. Product and Company Identification

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Product Name ETHYL VINYL ETHER
Part Number RXSOL-19-3654-200

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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Chemical Name	Cas No	EC No	Weight	Formula
Ethyl vinyl ether	109-92-2	203-718-4	72,11 g/mol	C ₄ H ₈ O

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H225 Highly flammable liquid and vapor. H336 May cause drowsiness or dizziness. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242 Use non-sparking tools. P273 Avoid release to the environment
Classification of the substance or mixture	No data available
Supplemental Hazard Statements	No data available
Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1%

4. First Aid Measures

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General advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation fresh air.
Eye Contact	Rinse out with plenty of water. Remove contact lenses
Swallowed	Make victim drink water (two glasses at most). Consult doctor if feeling unwell.
Skin Contact	In case of skin contact Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Inhalation	No data available
Ingestion	No data available
Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the

Indication of any immediate medical attention and special treatment needed No data available

5. Fire-fighting Measures

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Flammability	No data available
Suitable extinguishing media	Carbon dioxide (CO ₂) Foam Dry powder
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given
Special hazards arising from the substance or mixture	Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
Further information	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system
Hazardous combustion products	No data available
Advice for firefighters	In the event of fire, wear self-contained breathing apparatus
Protective Equipment	No data available
Specific Hazards Arising from the Chemical	No data available

6. Accidental Release Measures

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Personal precautions , protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	No data available
Personal Protection	No data available
Environmental Precaution	Do not let product enter drains. Risk of explosion
Methods and materials for containment and cleaning	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area
Reference to other sections	For disposal see section 13

7. Handling and Storage

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Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Incompatible materials	No data available
Hygiene measures	Change contaminated clothing. Wash hands after working with substance. For precautions see section 2.2.
Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Conditions for safe storage, including any incompatibilities	No data available
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Storage class	Storage class (TRGS 510) 3 Flammable liquids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	No data available

8. Exposure controls and personal protection

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Exposure controls	Personal protective equipment
Engineering Control	No data available
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Body Protection	Flame retardant antistatic protective clothing.
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material Viton® Minimum layer thickness 0,7 mm Break through time 60 min Material tested Vitoject® (KCL 890 / Aldrich Z677698, Size M)
Respiratory protection	Required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type AX The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Other Protection Measure	No data available

9. Physical and chemical properties

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Physical state	Liquid
Colour	Colorless
Odour	Ether-like
Odor Threshold	No data available
pH	No data available
Melting Point	-115 °C
Boiling Point	36 °C at 1.013 hPa
Flash Point	-45 °C - DIN 51755 Part 1
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data available
Upper/lower flammability or explosive limits	Upper explosion limit 12,0 %(V) Lower explosion limit 1,3 %(V)
Autoignition temperature	27 °C at 966 hPa not auto-flammable
Decomposition temperature	No data available
Vapour pressure	560 hPa at 20 °C
Viscosity	Dynamic 0,28 mPa.s at 5 °C
Density	560 hPa at 20 °C
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	Log Pow: 1,63 at 25 °C - Bioaccumulation is not expected., (ECHA)
Explosive properties	No data available
Solubility	8,3 g/l at 15 °C
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	Vapors may form explosive mixture with air.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) . Contains the following stabilizer(s) caustic potash (0,1 %)
Possibility of hazardous reactions	Violent polymerization may be caused by: aluminium chloride boron trifluoride iodine Peroxides acids Aldrich- 422177 Page 7 of 11 The life science business of Merck operates as MilliporeSigma in the US and Canada Risk of ignition or formation of inflammable gases or vapours with Oxidizing agents Risk of explosion with: polymerisation initiators
Conditions to avoid	Warming
Incompatible materials	No data available
Hazardous product decomposition	No data available

11. Toxicological information

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Acute toxicity	LD50 Oral - Rat - male - 6.150 mg/kg (OECD Test Guideline 401) Remarks: (ECHA) LC50 Inhalation - Rat - 4 h - > 21,2 mg/l - vapor (External MSDS) LD50 Dermal - Rabbit - male - > 15.080 mg/kg (OECD Test Guideline 402) (ECHA)
Skin corrosion/irritation	Skin - Rabbit Result No skin irritation (OECD Test Guideline 404) (ECHA)
Serious eye damage/irritation	Eyes - Rabbit Result No eye irritation (OECD Test Guideline 405)
Respiratory or skin sensitization	No data available
Carcinogenicity	No data available
Germ cell mutagenicity	In vitro tests did not show mutagenic effects Test Type Ames test Method OECD Test Guideline 471 Result: negative (ECHA)
Reproductive toxicity	No data available
Specific target organ toxicity-single exposure	Inhalation - May cause drowsiness or dizziness.
Additional Information	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks Remarks: (ECHA) Millipore- 1.05067 Page 9 of 12 The life science business of Merck operates as MilliporeSigma in the US and Canada Nausea, Vomiting, Headache, Impairment of vision, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

12. Ecological information

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Persistence and degradability	Biodegradability aerobic - Exposure time 28 d Result: 60 - 70 % - Readily biodegradable. (OECD Test Guideline 310) (ECHA) The 10 day time window criterion is not fulfilled. The value is given in analogy to the following substances: isobutyl vinyl ether
Toxicity to fish	LC50 - Danio rerio (zebra fish) - 28,3 mg/l - 96 h (OECD Test Guideline 203) (ECHA) The value is given in analogy to the following substances isobutyl vinyl ether
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 52 mg/l - 48 h (OECD Test Guideline 202) (ECHA) The value is given in analogy to the following substances isobutyl vinyl ether
Toxicity	No data available
Toxicity to bacteria	EC10 - Pseudomonas putida - 3.376 mg/l - 30 min (DIN 38412) (ECHA) The value is given in analogy to the following substances: isobutyl vinyl ether
Toxicity to algae	Growth inhibition ErC50 - Desmodesmus subspicatus (green algae) - 45,9

mg/l - 72 h (OECD Test Guideline 201) Aldrich- 422177 Page 9 of 11
The life science business of Merck operates as MilliporeSigma in the US and Canada (ECHA) The value is given in analogy to the following substances: isobutyl vinyl ether

No data available

No data available

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Stability in water - 0,59 h at 20 °C pH 4 (OECD Test Guideline 111) Rapid degradation.

13. Disposal considerations

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Product

No data available

Contaminated packaging

No data available

Waste treatment Method

No data available

14. Transport information

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UN number

ADR/RID:1302 IMDG:1302 IATA:1302

UN proper shipping name

ADR/RID: VINYL ETHYL ETHER, STABILIZED IMDG: VINYL ETHYL ETHER, STABILIZED IATA: Vinyl ethyl ether, stabilized

Transport hazard classess

ADR/RID:3 IMDG:3 IATA:3

Packaging group

ADR/RID:I IMDG:I IATA:I

Environmental hazards

ADR/RID:No IMDG Marine pollutant:No IATA: No

Special precautions for user

Further information

No data available

15. Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

16. Other information

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Other Information

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