

SAFETY DATA SHEET

Classified in accordance with 29 CFR 1910.1200

1. Identification

Product identifier: ACRIFIX® 1S 0116**Other means of identification** None.**Recommended use:** Adhesive**Recommended restrictions:** None known.

Manufacturer/Importer/Distributor Information

CompanyName	:	Roehm America LLC 299 Jefferson Road Parsippany, NJ 07054 USA
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Telephone	:	+1 800-225-0172
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E-mail	:	product-regulatory-services@roehm.com
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Emergency telephone number: 24-Hour Health Emergency	:	+1 800 424 9300 (CHEMTREC - US & CANADA) +1 703 527 3887 (CHEMTREC WORLD)
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2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 2
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Health Hazards

Acute toxicity (Oral)	Category 4
Acute toxicity (Inhalativ)	Category 4
Serious eye irritation	Category 2A
Specific Target Organ Toxicity - Single Exposure	Category 3 (Respiratory tract irritation.)

Environmental Hazards

Acute hazards to the aquatic environment	Category 3
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Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
Harmful if swallowed.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof ventilating equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/eye protection/face protection.

Response: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/ physician if you feel unwell. If eye irritation persists: Get medical advice/attention. In case of fire: Use alcohol resistant foam for extinction. In case of fire: Use fire extinguishing powder to extinguish. In case of fire: Use carbon dioxide for extinction.

Storage: Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
ethyl formate		109-94-4	15 - 40%
nitroethane		79-24-3	15 - 40%
2-phenoxyethanol	Ethanol, 2-phenoxy-	122-99-6	3 - 7%
Ethyl acetate		141-78-6	3 - 7%
butan-1-ol		71-36-3	1 - 5%
methyl methacrylate	methyl 2-methylprop-2-enoate	80-62-6	0.1 - <1%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

- General information:** First aider needs to protect himself. Take off all contaminated clothing immediately. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours.
- Inhalation:** If inhaled, remove to fresh air. Give artificial respiration if breathing has stopped. If breathing is difficult, give oxygen. Get immediate medical advice/attention.
- Skin Contact:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Obtain medical attention if irritation develops or persists. Wash clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- Eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical advice/attention.
- Ingestion:** If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Get immediate medical advice/attention. Never give anything by mouth to an unconscious person.
- Personal Protection for First-aid Responders:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear., Containers can build up pressure if exposed to heat (fire)., Cool with water spray.

Most important symptoms/effects, acute and delayed

Symptoms: Skin irritation Causes eye irritation. cough, sneezing. confusion
Sensitization Health injuries may be delayed.

Hazards: Vapours in higher concentrations may cause narcotic effects. May cause central nervous system effects. Liver and kidney injuries may occur. Harmful if inhaled. Poisoning by resorption through skin possible.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Flammable liquid. Vapors can travel to a source of ignition and flash back. Explosive mixtures may occur at temperatures at or above the flashpoint.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Dry powder Carbon dioxide Alcohol resistant foam.

Unsuitable extinguishing media: Water. dry chemicals on a bicarbonate basis

Specific hazards arising from the chemical: May be released in case of fire: carbon monoxide, carbon dioxide, organic products of decomposition and nitric oxides. Closed container may rupture if strongly heated.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Normal measures for preventive fire protection. Keep away from sources of ignition - No smoking. In case of fire cool endangered containers with water. Take precautionary measures against static discharges. Use only explosion-proof equipment. Vapours can form explosive mixtures with air.

Special protective equipment for fire-fighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Containers can build up pressure if exposed to heat (fire). Cool with water spray.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment; see section 8. Handle in accordance with good industrial hygiene and safety practice. Assure sufficient ventilation. Avoid contact with eyes, skin, and clothing. Keep away from sources of ignition - No smoking. Avoid breathing dust/mist/vapors. Use breathing apparatus if exposed to vapors/dust/mist/aerosol.

Accidental release measures: Evacuate area and do not approach spilled product. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). For personal protection see section 8.

Methods and material for containment and cleaning up: Larger quantities: Remove mechanically (by pumping). Use explosion-proof equipment! Smaller quantities and/or residues: Contain with absorbent material (e.g. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with regulations.

Environmental Precautions: Contain spilled product and prevent any contamination of soil, the sewer system or water bodies. Do not allow to sink into ground water, sewers or into surface water. Issue an immediate alarm report to the company environmental protection department if the product unintentionally leaves the production area. If the product contaminates rivers and lakes or drains inform respective authorities.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment.

Safe handling advice: Keep container closed. Keep away from heat. Keep away from sparks, flames and other sources of ignition. Avoid contact with eyes, skin, and clothing. When using do not eat, drink or smoke. Wash thoroughly after handling. Avoid breathing mist or vapor. Use only with adequate ventilation. Vapours may form explosive mixtures with air. Containers can burst violently when heated, due to excess pressure build-up. The need for grounding and bonding of containers in accordance with OSHA 29 CFR 1910.106 and NFPA 77 should be assessed for all product transfers. Container hazardous when empty. Follow all SDS/label precautions even after the container is emptied because it may retain product residues. **DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.** Residual vapors might explode on ignition; do not apply heat, cut, drill, grind or weld on or near this container. To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product. A safety shower and eye wash fountain should be readily available.

Contact avoidance measures: No data available.

Hygiene measures: Take off all contaminated clothing immediately. Follow the usual good standards of occupational hygiene. Private clothes and working clothes should be kept separately. Cleanse and apply cream to skin after work. Contaminated work clothing should not be allowed out of the workplace.

Storage

Safe storage conditions: Keep away from incompatible substances. see also section 10. Observe prohibition against storing together! Keep in the original container at a temperature not exceeding 30 °C (86 °F). Keep container closed. Store in a well-ventilated place. Improper disposal or re-use of this container may be dangerous and illegal.

Safe packaging materials: No data available.

Storage Temperature: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
ethyl formate	REL	100 ppm 300 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	STEL	100 ppm	US. ACGIH Threshold Limit Values, as amended (03 2016)
	PEL	100 ppm 300 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as

				amended (03 2016)
	IDLH	1,500 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	TWA	100 ppm	300 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	100 ppm	300 mg/m ³	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	AN ESL		300 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	ST ESL		3,000 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	ST ESL		1,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	AN ESL		100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	TWA PEL	100 ppm	300 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
nitroethane	TWA	100 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	PEL	100 ppm	310 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
	IDLH	1,000 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	TWA	100 ppm	310 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	100 ppm	310 mg/m ³	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	ST ESL		3,100 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL		310 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	ST ESL		1,000 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL		100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	TWA PEL	100 ppm	310 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
Ethyl acetate	REL	400 ppm	1,400 mg/m ³	US. NIOSH. Pocket Guide to Chemical Hazards, as amended (2010)
	TWA	400 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	PEL	400 ppm	1,400 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
	LEL		2.0 %	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	IDLH	2,000 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	TWA	400 ppm	1,400 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	400 ppm	1,400 mg/m ³	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	ST ESL		3,100 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as

				amended (06 2018)
	ST ESL		870 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	AN ESL		400 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	AN ESL		1,440 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	TWA PEL	400 ppm	1,400 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
butan-1-ol	Ceil_Time	50 ppm	150 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	TWA	20 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	PEL	100 ppm	300 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
	IDLH	1,400 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	LEL		1.4 %	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	Ceiling	50 ppm	150 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	Ceiling	50 ppm	150 mg/m ³	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	AN ESL		20 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	ST ESL		200 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	AN ESL		61 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	ST ESL		610 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	Ceiling	50 ppm	150 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
methyl methacrylate	REL	100 ppm	410 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	TWA	50 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	STEL	100 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	PEL	100 ppm	410 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
	IDLH	1,000 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	TWA	100 ppm	410 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	100 ppm	410 mg/m ³	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	AN ESL		50 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	ST ESL		210 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	AN ESL		210 µg/m ³	US. Texas. Effects Screening Levels (Texas

			Commission on Environmental Quality), as amended (06 2018)
	ST ESL	860 µg/m ³	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (06 2018)
	TWA PEL	50 ppm 205 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
	STEL	100 ppm 410 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)

Appropriate Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment.

Individual protection measures, such as personal protective equipment
Eye/face protection:

Use safety glasses (ANSI Z87.1 or approved equivalent).

Skin Protection
Hand Protection:

Material: butyl rubber gloves (minimal thickness 0.3 mm)

Break-through time: 30 min

Guideline: EN 374

Additional Information: Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use., Selection of protective gloves to meet the requirements of specific workplaces.

Skin and Body Protection:

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Respiratory Protection:

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hygiene measures:

Take off all contaminated clothing immediately. Follow the usual good standards of occupational hygiene. Private clothes and working clothes should be kept separately. Cleanse and apply cream to skin after work. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties
Appearance

Physical state:	liquid
Form:	liquid viscous
Color:	Violet
Odor:	Fruity

Odor Threshold:	No data available.
pH:	4 - 4.5
Freezing point:	No data available.
Boiling Point:	54 °C (1,013 hPa) 129 °F
Flash Point:	< -1 °C < 30 °F
Evaporation Rate:	No data available.
Flammability (solid, gas):	Not applicable liquid
Explosive limit - upper:	13.5 %(V) (ethyl formate)
Explosive limit - lower:	2.7 %(V) (ethyl formate) 3.4 %(V) (nitroethane)
Vapor pressure:	approx. 260 hPa (20 °C) (ethyl formate) (68 °F) (ethyl formate) approx. 20.8 hPa (20 °C) (nitroethane) (68 °F) (nitroethane)
Relative vapor density:	> 1 20 °C 68 °F
Density:	0.998 g/cm ³ (20 °C) (68 °F)
Relative density:	No data available.
Solubility in Water:	118 g/l (20 °C) (ethyl formate) 45 g/l (20 °C) (nitroethane)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Not applicable
Self Ignition Temperature:	440 °C (ethyl formate) Auto Ignition Temperature 824 °F 410 °C (nitroethane) Auto Ignition Temperature 770 °F The substance or mixture is not classified as pyrophoric.
Decomposition Temperature:	The following applies to the component nitroethane: May explode if heated. Shock and heat sensitive.
Kinematic viscosity:	No data available.
Dynamic viscosity:	approx. 650 - 900 mPa.s (20 °C) (68 °F)
Other information	
Explosive properties:	Vapours may form explosive mixtures with air see item 10
Oxidizing properties:	The substance or mixture is not classified as oxidizing.

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions"
Chemical Stability:	The following applies to the component nitroethane: May explode if heated. Shock and heat sensitive.
Possibility of hazardous reactions:	Product will not undergo polymerization. Reactions with strong oxidizing agents. Reactions with lead, copper and their alloys. Forms shock sensitive compounds with strong alkalis, acids or mixtures of amines and heavy metal oxides.
Conditions to avoid:	Avoid high temperatures and sources of ignition.
Incompatible Materials:	Reactions with strong oxidizing agents. Reactions with lead, copper and their alloys. Forms shock sensitive compounds with strong alkalis, acids or mixtures of amines and heavy metal oxides.
Hazardous Decomposition Products:	None when used as directed.

11. Toxicological information

General information: Contains a material that has been reported to cause isolated cases of human sensitization in other products. No reports of human sensitization have been reported for this product.

Information on likely routes of exposure

Inhalation: Harmful if inhaled.

Skin Contact: May be harmful in contact with skin. Causes mild skin irritation.

Eye contact: May irritate eyes.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: Drowsiness, dizziness, disorientation, vertigo.

Skin Contact: Prolonged skin contact may cause redness and irritation.

Eye contact: Eye may become red, tear, and become painful.

Ingestion: If handled correctly, not a relevant route of exposure. Information on effects are given below.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: > 1,500 mg/kg

Dermal
Product: ATEmix: > 3,000 mg/kg Acute dermal toxicity category 5 (UN-GHS)

Inhalation
Product: Acute inhalation toxicity category 4 (UN-GHS)

Repeated dose toxicity

Product: No data available.

Components:

2-phenoxyethanol
Ethyl acetate
methyl methacrylate

NOAEL (Rat, Oral): 1,000 mg/kg
NOAEL (Rat(male and female), Oral): 900 mg/kg LOAEL (Rat(male and female), Oral): 3,600 mg/kg
NOAEL (Rat, Inhalativ, 2 years): 25 ppm Findings: Damage to mucous membranes in the nose at 400 ppm
NOAEL (Rat, Oral, 2 years): 2000 ppm Findings: no toxic effects

Skin Corrosion/Irritation

Product: No data available.

Components:

ethyl formate	no OECD method. (Rabbit): Slightly irritating.
nitroethane	OECD Guide-line 404 (Rabbit): Not irritating , 24 h
2-phenoxyethanol	OECD 404 (Rabbit): Not irritating
Ethyl acetate	in vivo (Rabbit): Not irritating
butan-1-ol	Draize Test (Rabbit): Irritating.
methyl methacrylate	(Rabbit): , 4 h Irritating.

Serious Eye Damage/Eye Irritation

Product: No data available.

Components:

ethyl formate	Rabbit: Irritating.
Ethyl acetate	Rabbit: Slightly irritating.

Respiratory or Skin Sensitization

Product: No data available.

Components:

ethyl formate	in vivo (Human): Not a skin sensitizer. Not classified for respiratory sensitization
nitroethane	in vivo (Guinea Pig): Not a skin sensitizer. Not classified for respiratory sensitization
2-phenoxyethanol	in vivo, OECD 406 (Guinea Pig): Not a skin sensitizer. Not classified for respiratory sensitization
Ethyl acetate	in vivo, OECD 406 (Guinea Pig): Not a skin sensitizer. Not classified for respiratory sensitization
butan-1-ol	Local Lymph Node Assay (LLNA), OECD TG 429 (Mouse): Not a skin sensitizer. Not classified for respiratory sensitization
methyl methacrylate	Local Lymph Node Assay (LLNA), LLNA (OECD 429) (Mouse): Skin sensitizer Cases of sensitisation also observed in humans. Not classified for respiratory sensitization

Carcinogenicity

Product: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro

Product: No data available.

Components:

ethyl formate	Microbial mutagenesis assay (Ames test): negative Chromosome aberration test in vitro: negative
nitroethane	Ames test (OECD 471): negative
2-phenoxyethanol	(OECD 473)negative Not classified (OECD 471)negative Not classified
Ethyl acetate	Ames test (OECD 471): negative
butan-1-ol	(OECD Test Guideline 476)negative Chromosome aberration test in vitro: negative Ames test: negative
methyl methacrylate	gene mutation (OECD 471): negative gene mutation (OECD 476): positive (in the cytotoxic concentration range) gene mutation (OECD 476): slightly positive , mouse lymphoma L5178Y cells gene mutation (OECD 476): slightly positive , Chinese hamster lung fibroblasts (V79) Chromosomal aberration (OECD 473): positive CHO-cells Based on available data, the classification criteria are not met.

In vivo

Product: No data available.

Components:

nitroethane	Oral (Mouse, male and female)negative
2-phenoxyethanol	(OECD 474) (Mouse)negative Not classified
Ethyl acetate	Micronucleus test (OECD 474) (Chinese hamster): negative
butan-1-ol	(OECD TG 474) (Mouse)negative
methyl methacrylate	gene mutation (Dominant lethal test) Inhalativ (Mouse): negative

Reproductive toxicity

Product: No data available.

Components:

ethyl formate	Not classified
nitroethane	Not classified
2-phenoxyethanol	Not classified RACB-Protocol
Ethyl acetate	Not classified OECD 416 Two-generation study
butan-1-ol	Not classified
methyl methacrylate	Not classified No indications of toxic effects were observed in reproduction studies in animals. OECD 414 OECD 416

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:

ethyl formate	Category 3 with respiratory tract irritation.
nitroethane	Not classified
2-phenoxyethanol	Not classified
Ethyl acetate	Category 3 with narcotic effects.
butan-1-ol	Category 3 with narcotic effects. Category 3 with respiratory tract irritation.
methyl methacrylate	Inhalation - vapor: Category 3 with respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:

ethyl formate	Not classified
nitroethane	Not classified
2-phenoxyethanol	Not classified
Ethyl acetate	Not classified
butan-1-ol	Not classified
methyl methacrylate	Not classified

**Aspiration Hazard
Product:**

No data available.

Components:

ethyl formate	Not classified
nitroethane	Not classified
2-phenoxyethanol	Not classified
Ethyl acetate	Not classified
butan-1-ol	Not classified
methyl methacrylate	Not classified

Other effects:

High solvent concentrations will cause irritations of the eyes and respiratory system and may cause headache, dizziness and disorder of the central nervous system. Inhalation of high concentrations of solvent vapors may have narcotic effects. On chronic overexposure damages to the liver and kidneys cannot be excluded. Methämoglobin formation cannot be ruled out. Carefully avoid contact with skin and eyes as well as inhalation of product vapours. No data is available on the product itself.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Components:

ethyl formate	LC 50 (Danio rerio (zebra fish), 96 h): > 100 mg/l literature
nitroethane	LC 50 (Danio rerio, 48 h): 880 mg/l LC 50 (Pimephales promelas (fathead minnow), 96 h): 569 mg/l
2-phenoxyethanol	LC 50 (Pimephales promelas (fathead minnow), 96 h): 460 mg/l
Ethyl acetate	LC 50 (Pimephales promelas (fathead minnow), 96 h): 230 mg/l
butan-1-ol	LC 50 (Pimephales promelas (fathead minnow), 96 h): 1,376 mg/l
methyl methacrylate	LC 50 (96 h): > 100 mg/l Expert judgement

Aquatic Invertebrates

Product: No data available.

Components:

ethyl formate	EC 50 (Daphnia magna (Water flea), 48 h): 212.5 mg/l
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nitroethane	EC 50 (Daphnia magna (Water flea), 48 h): > 21.9 mg/l
2-phenoxyethanol	EC 50 (Daphnia magna (Water flea), 48 h): > 500 mg/l
butan-1-ol	EC 50 (Daphnia magna (Water flea), 48 h): 1,328 mg/l
methyl methacrylate	EC 50 (Daphnia magna (Water flea), 48 h): 69 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Components:

methyl methacrylate NOEC (Danio rerio (zebra fish)): 9.4 mg/l

Aquatic Invertebrates

Product: No data available.

Components:

nitroethane NOEC (Daphnia magna (Water flea), 21 d): 2.44 mg/l

Ethyl acetate NOEC (Daphnia magna (Water flea), 21 d): 2.4 mg/l

butan-1-ol NOEC (Daphnia magna (Water flea), 21 d): 4.1 mg/l
EC50 (Daphnia magna (Water flea), 21 d): 18 mg/l

methyl methacrylate NOEC (Daphnia magna (Water flea), 21 d): 37 mg/l

Toxicity to Aquatic Plants

Product: No data available.

Components:

ethyl formate EC 50 (Green Algae, 96 h): 131.702 mg/l
EC 50 (Green algae (Scenedesmus quadricauda), 72 h): 219.547 mg/l literature

nitroethane EC 50 (Pseudokirchneriella subcapitata (green algae), 96 h): 12.3 mg/l
EC 50 (Pseudokirchneriella subcapitata (green algae), 72 h): 17.4 mg/l
NOEC (Pseudokirchneriella subcapitata (green algae), 72 h): 7.11 mg/l

2-phenoxyethanol EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 500 mg/l

Ethyl acetate NOEC (Desmodesmus subspicatus (green algae), 72 h): > 100 mg/l

butan-1-ol EC 50 (Pseudokirchneriella subcapitata (green algae), 96 h): 225 mg/l growth rate

methyl methacrylate EC 50 (Selenastrum capricornutum (green algae), 72 h): > 100 mg/l
NOEC (Selenastrum capricornutum (green algae), 72 h): > 110 mg/l

Persistence and Degradability

Biodegradation

Product: No data available.

Components:

ethyl formate 77.48 % (28 d, OECD 301 D)

nitroethane < 0.1 % (28 d, OECD 301 D)

Ethyl acetate The 10 day time window criterion is not fulfilled.

butan-1-ol 92 % (20 d)
96 % (15 d)

methyl methacrylate 94 % (14 d, OECD 301 C)

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Components:

ethyl formate Bioconcentration Factor (BCF): 0.88

nitroethane Fish, Bioconcentration Factor (BCF): 1 (Measured)

butan-1-ol Significant bioaccumulation need not be expected.
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
Accumulation in organisms is not expected due to the coefficient of distribution of n-octanol in water (log Pow).

methyl methacrylate Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: Not applicable

Mobility in soil: No data available.

Components:

ethyl formate No data available.

nitroethane No data available.

2-phenoxyethanol No data available.

Ethyl acetate No data available.

butan-1-ol Not expected to adsorb on soil.

methyl methacrylate No data available.

Other adverse effects: Prevent substance from entering soil, natural bodies of water and sewer systems. No investigations were carried out with the preparation itself. The properties of this product which are characteristics posing a threat to the environment have been calculated as per regulation (EC) No. 1272/2008. See section 2 "Hazards Identification".

13. Disposal considerations

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: Waste must be disposed of in accordance with federal, state and local regulations. Incineration is the preferred method. Roehm encourages the recycle, recovery and reuse of materials, where permitted, as an alternate to disposal as a waste.

Contaminated Packaging: Contaminated packaging should ideally be emptied; it can then be recycled after having been decontaminated. Packaging that cannot be cleaned should be disposed of professionally. Uncontaminated packaging may be taken for recycling. Empty containers must be handled with care due to product residue. **DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.**

14. Transport information

Domestic regulation

49 CFR

UN/ID/NA number : UN 1133
 Proper shipping name : Adhesives

Class : 3
 Packing group : II
 Labels : 3
 ERG Code : 128
 Marine pollutant : no

International Regulations

IATA-DGR

UN/ID No. : UN 1133
 Proper shipping name : Adhesives
 Class : 3
 Packing group : II
 Labels : 3
 Packing instruction (cargo aircraft) : 364
 Packing instruction (passenger aircraft) : 353

IMDG-Code

UN number : UN 1133
 Proper shipping name : ADHESIVES

Class : 3
 Packing group : II
 Labels : 3
 EmS Code : F-E, S-D
 Marine pollutant : no

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

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Flammable (gases, aerosols, liquids, or solids), Acute toxicity (any route of exposure), Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

None present or none present in regulated quantities.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

<u>Chemical Identity</u>	<u>% by weight</u>
2-phenoxyethanol	1.0%
butan-1-ol	1.0%

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<u>Chemical Identity</u>
methyl methacrylate

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
ethyl formate
nitroethane
Ethyl acetate
2-phenoxyethanol
butan-1-ol

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

ethyl formate
nitroethane
Ethyl acetate
2-phenoxyethanol
butan-1-ol

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

16. Other information, including date of preparation or last revision

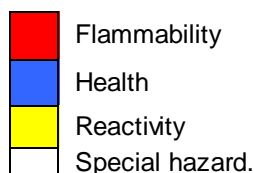
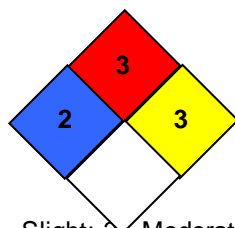
HMIS Hazard ID

Health	2
Flammability	3
Physical Hazards	3
PERSONAL PROTECTION	H

H - Goggles, Gloves, Apron & Vapor Respirator

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 08/05/2021

Version #: 3.0

Further Information: none

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Disclaimer:

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