

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard

POLYVANTIS

ACRIFIX® 1S 0117

Version 1.1 Revision Date: 04/30/2026 SDS Number: 151-00002 Date of last issue: 09/22/2025
Date of first issue: 09/22/2025

SECTION 1. IDENTIFICATION

Product name : ACRIFIX® 1S 0117

Manufacturer or supplier's details

Company name of supplier : POLYVANTIS Sanford LLC

Address : 1796 Main St.
Sanford ME 04073

Telephone : (207) 324-6000

Emergency telephone : +1 866 519 4752 (24 h) - Account ID:59904

Recommended use of the chemical and restrictions on use

Recommended use : Adhesives

Restrictions on use : For professional and industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Flammable liquids : Category 2

Acute toxicity (Oral) : Category 4

Serious eye damage : Category 1

Specific target organ toxicity : Category 2 (Respiratory Tract, Central nervous system)
- repeated exposure

Other hazards

Vapors may form explosive mixture with air.

Repeated exposure may cause skin dryness or cracking.

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H373 May cause damage to organs (Respiratory Tract, Central nervous system) through prolonged or repeated exposure.

Supplemental Hazard State-ments : Corrosive to the respiratory tract.

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Precautionary Statements

: **Prevention:**

P210 Keep away from heat, sparks, open flame and hot surfaces. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical, ventilating and lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.
P314 Get medical attention if you feel unwell.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Adhesives

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Ethyl formate	109-94-4*	>= 30 - <= 60	TSC
Nitroethane	79-24-3*	>= 30 - <= 60	TSC
Ethyl acetate	141-78-6*	>= 3 - <= 7	TSC
2-Phenoxyethanol	122-99-6*	>= 3 - <= 7	TSC

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Butan-1-ol	71-36-3*	>= 1 - <= 5	TSC
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* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.
- If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
Causes serious eye damage.
May cause damage to organs through prolonged or repeated exposure.
Corrosive to the respiratory tract.
Prolonged or repeated contact may dry skin and cause irritation.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical
- Unsuitable extinguishing media : High volume water jet
Dry powder
- Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.

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- Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g., by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.
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SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE
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- Local/Total ventilation : CONTROLS/PERSONAL PROTECTION section.
: If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.
- Advice on safe handling : Do not get on skin or clothing.
: Do not breathe mist or vapors.
: Do not swallow.
: Do not get in eyes.
: Wash skin thoroughly after handling.
: Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
: Non-sparking tools should be used.
: Keep container tightly closed.
: Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers.
: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
: Take precautionary measures against static discharges.
: Do not eat, drink or smoke when using this product.
: Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
: Store locked up.
: Keep tightly closed.
: Keep in a cool, well-ventilated place.
: Store in accordance with the particular national regulations.
: Keep away from heat and sources of ignition.
- Materials to avoid : Do not store with the following product types:
: Strong oxidizing agents
: Self-reactive substances and mixtures
: Organic peroxides
: Flammable solids
: Pyrophoric liquids
: Pyrophoric solids
: Self-heating substances and mixtures
: Substances and mixtures which in contact with water emit flammable gases
: Explosives
: Gases
: Very acutely toxic substances and mixtures
- Recommended storage temperature : < 86 °F / < 30 °C
- Further information on storage stability : Keep away from direct sunlight.
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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

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Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethyl formate	109-94-4	STEL	100 ppm	ACGIH
		TWA	100 ppm 300 mg/m ³	NIOSH REL
		TWA	100 ppm 300 mg/m ³	OSHA Z-1
Nitroethane	79-24-3	TWA	100 ppm	ACGIH
		TWA	100 ppm 310 mg/m ³	NIOSH REL
		TWA	100 ppm 310 mg/m ³	OSHA Z-1
Ethyl acetate	141-78-6	TWA	400 ppm	ACGIH
		TWA	400 ppm 1,400 mg/m ³	NIOSH REL
		TWA	400 ppm 1,400 mg/m ³	OSHA Z-1
Butan-1-ol	71-36-3	TWA	20 ppm	ACGIH
		C	50 ppm 150 mg/m ³	NIOSH REL
		TWA	100 ppm 300 mg/m ³	OSHA Z-1

Engineering measures : Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : butyl-rubber
Glove thickness : 0.3 mm
Wearing time : 60 min

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the

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- glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often!
- Eye protection : Wear the following personal protective equipment:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : violet
- Odor : fruity
- Odor Threshold : No data available
- pH : 3.5 - 4
Concentration: 100 %
- Melting point/freezing point : ca. -112 °F / -80 °C
- Initial boiling point and boiling range : 129 °F / 54 °C (1,013 hPa)
- Flash point : < 27 °F / < -3 °C
- Evaporation rate : No data available
- Flammability (solid, gas) : Not applicable
- Flammability (liquids) : Ignitable (see flash point)
- Self-ignition : The substance or mixture is not classified as self heating.
- Upper explosion limit / Upper flammability limit : 13.5 %(V)
Solvent

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Lower explosion limit / Lower flammability limit	:	2.7 %(V) Solvent
Vapor pressure	:	260 hPa (68 °F / 20 °C) (for a component of this mixture)
Relative vapor density	:	> 1 Heavier than air.
Density	:	ca. 0.98 g/cm ³ (68 °F / 20 °C)
Solubility(ies) Water solubility	:	45 g/l partly soluble (68 °F / 20 °C)
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	777 - 781 °F / 414 - 416 °C Solvent
Decomposition temperature	:	The substance or mixture is not classified self-reactive.
Viscosity		
Viscosity, dynamic	:	0.8 mPa.s (68 °F / 20 °C)
Viscosity, kinematic	:	0.816 mm ² /s (68 °F / 20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle characteristics		
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Highly flammable liquid and vapor. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Amines Strong acids Bases Heavy metals
Hazardous decomposition products	:	No hazardous decomposition products are known.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: > 1,000 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: > 11 mg/l
Test atmosphere: vapor

Acute dermal toxicity : Acute toxicity estimate: > 3,000 mg/kg

Components:

Ethyl formate:

Acute oral toxicity : LD50 (Rat): 1,500 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Nitroethane:

Acute oral toxicity : LD50 (Rat, female): 1,083 mg/kg
Method: OECD Test Guideline 401
Remarks: The test was conducted equivalent or similar to guideline

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Expert judgment

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal

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toxicity
Remarks: The test was conducted equivalent or similar to guideline

Ethyl acetate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 22.5 mg/l
Exposure time: 6 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 20,000 mg/kg

2-Phenoxyethanol:

Acute oral toxicity : LD50 (Rat, male): 1,394 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 1 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 412

Acute dermal toxicity : LD50 (Rat): 14,391 mg/kg

Butan-1-ol:

Acute oral toxicity : LD50 (Rat, female): 790 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 17.76 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Assessment: Not corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit, male): 3,430 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Result : Repeated exposure may cause skin dryness or cracking.

Components:

Ethyl formate:

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

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Nitroethane:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : The test was conducted equivalent or similar to guideline

Ethyl acetate:

Species : Rabbit
Result : No skin irritation

Assessment : Repeated exposure may cause skin dryness or cracking.

2-Phenoxyethanol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Butan-1-ol:

Species : Rabbit
Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Ethyl formate:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days
Remarks : Based on data from similar materials

Nitroethane:

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

Ethyl acetate:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

2-Phenoxyethanol:

Species : Rabbit
Result : Irreversible effects on the eye
Method : OECD Test Guideline 405

Butan-1-ol:

Species : Rabbit

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Result : Irreversible effects on the eye
Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Ethyl formate:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative
Remarks : Based on data from similar materials

Nitroethane:

Test Type : Intracutaneous test
Routes of exposure : Skin contact
Species : Guinea pig
Result : negative

Ethyl acetate:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

2-Phenoxyethanol:

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Butan-1-ol:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Result : negative

Germ cell mutagenicity

Not classified based on available information.

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Components:

Ethyl formate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Nitroethane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: The test was conducted equivalent or similar to guideline

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: The test was conducted according to guideline

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Mouse
Application Route: Ingestion
Result: negative

Ethyl acetate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Hamster
Application Route: Ingestion
Result: negative

2-Phenoxyethanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

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Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 486
Result: negative

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Ingestion
Result: negative

Butan-1-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Ethyl formate:

Species : Rat
Application Route : Ingestion
Exposure time : 104 days
Result : negative

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Remarks : Based on data from similar materials

Nitroethane:

Species : Rat
Application Route : inhalation (vapor)
Exposure time : 2 Years
Method : OECD Test Guideline 453
Result : negative
Remarks : The test was conducted equivalent or similar to guideline

2-Phenoxyethanol:

Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Method : OECD Test Guideline 451
Result : negative

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:

Ethyl formate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Ethyl acetate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

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Remarks: Based on data from similar materials

Species: Rat
Application Route: inhalation (vapor)
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Inhalation
Result: negative
Remarks: Based on data from similar materials

Test Type: Embryo-fetal development
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

2-Phenoxyethanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative

Butan-1-ol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapor)
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

STOT-single exposure

Corrosive to the respiratory tract.

Components:

Ethyl formate:

Assessment : May cause respiratory irritation.
Remarks : Based on data from similar materials

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Ethyl acetate:

Assessment : May cause drowsiness or dizziness.

2-Phenoxyethanol:

Assessment : May cause respiratory irritation.

Butan-1-ol:

Assessment : May cause respiratory irritation.

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

May cause damage to organs (Respiratory Tract, Central nervous system) through prolonged or repeated exposure.

Components:

Nitroethane:

Routes of exposure : inhalation (vapor)
Target Organs : Respiratory Tract, Central nervous system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Repeated dose toxicity

Components:

Ethyl formate:

Species : Rat
NOAEL : 1.237 mg/l
Application Route : inhalation (vapor)
Exposure time : 14 Days
Remarks : Based on data from similar materials

Nitroethane:

Species : Rat
LOAEL : 0.31 mg/l
Application Route : inhalation (vapor)
Exposure time : 13 Weeks
Method : OECD Test Guideline 413
Remarks : The test was conducted equivalent or similar to guideline

Ethyl acetate:

Species : Rat
NOAEL : 900 mg/kg
LOAEL : 3,600 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Species : Rat

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NOAEL : 1.28 mg/l
LOAEL : 2.75 mg/kg
Application Route : inhalation (vapor)
Exposure time : 94 Days

2-Phenoxyethanol:

Species : Rat
NOAEL : 396 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks
Method : OECD Test Guideline 408

Species : Rabbit
NOAEL : 500 mg/kg
Application Route : Skin contact
Exposure time : 13 Weeks

Butan-1-ol:

Species : Rat
NOAEL : 125 mg/kg
LOAEL : 500 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks

Species : Rat
NOAEL : > 1 mg/l
Application Route : inhalation (vapor)
Exposure time : 13 Weeks
Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

Components:

Butan-1-ol:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

Ethyl acetate:

Eye contact : Target Organs: Eye
Symptoms: Irritation

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Ethyl formate:

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 115 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 1,079 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials
- NOEC (Desmodesmus subspicatus (green algae)): 7.81 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials
- Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Orange-red killifish)): 158,000 mg/l
Exposure time: 200 d
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials
- Toxicity to microorganisms : EC50 (Pseudomonas putida): > 10,000 mg/l
Exposure time: 17 h
Remarks: Based on data from similar materials

Nitroethane:

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 880 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 203
Remarks: The test was conducted according to guideline
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 21.9 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: The test was conducted equivalent or similar to guideline
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 17.4 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: The test was conducted according to guideline

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NOEC (Raphidocelis subcapitata (freshwater green alga)):
7.11 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: The test was conducted according to guideline

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 2.44 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: The test was conducted according to guideline

Ethyl acetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 220 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,090 mg/l
Exposure time: 24 h
Method: DIN 38412

Toxicity to algae/aquatic plants : NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): > 1 - 9.65 mg/l
Exposure time: 32 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 2.4 mg/l
Exposure time: 24 d

Toxicity to microorganisms : EC10 (Photobacterium phosphoreum): 1,650 mg/l
Exposure time: 0.25 h

2-Phenoxyethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 344 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): >= 500 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 625 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.

EC10 (Desmodesmus subspicatus (green algae)): 333 mg/l
Exposure time: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 24 mg/l
Exposure time: 34 d
Method: OECD Test Guideline 210

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 9.43 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: >= 1,000 mg/l
Exposure time: 30 min
Method: OECD Test Guideline 209

Butan-1-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,376 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,328 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 225 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

EC10 (Raphidocelis subcapitata (freshwater green alga)): 134 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 4.1 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC10 (Pseudomonas putida): 2,476 mg/l
Exposure time: 17 h
Method: DIN 38 412 Part 8

Persistence and degradability

Components:

Ethyl formate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 310
Remarks: Based on data from similar materials

Nitroethane:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: < 0.1 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

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Remarks: The test was conducted according to guideline

Ethyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 69 %
Exposure time: 20 d

2-Phenoxyethanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 3 d
Method: OECD Test Guideline 301A

Butan-1-ol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 92 %
Exposure time: 20 d

Bioaccumulative potential

Components:

Ethyl formate:

Partition coefficient: n-octanol/water : log Pow: 0.03

Nitroethane:

Partition coefficient: n-octanol/water : log Pow: 0.162
Method: Regulation (EC) No. 440/2008, Annex, A.8
Remarks: The test was conducted according to guideline

Ethyl acetate:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 30

Partition coefficient: n-octanol/water : log Pow: 0.68

2-Phenoxyethanol:

Partition coefficient: n-octanol/water : log Pow: 1.2

Butan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 1
Method: OECD Test Guideline 117

Mobility in soil

No data available

Other adverse effects

No data available

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Endocrine disrupting properties

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1133
Proper shipping name : ADHESIVES
Class : 3
Packing group : II
Labels : 3
Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 1133
Proper shipping name : Adhesives
Class : 3
Packing group : II
Labels : Flammable Liquids
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 IMO instruments

Not applicable for product as supplied.

Domestic regulation

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UN/ID/NA number : UN 1133
Proper shipping name : Adhesives
Class : 3
Packing group : II
Labels : FLAMMABLE LIQUID
ERG Code : 128
Marine pollutant : no

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.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Ethyl acetate	141-78-6	5000	100000
Butan-1-ol	71-36-3	5000	166944

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Specific target organ toxicity (single or repeated exposure)
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

2-Phenoxyethanol	122-99-6	>= 1 - < 5 %
Butan-1-ol	71-36-3	>= 1 - < 5 %

US State Regulations

Pennsylvania Right To Know

Ethyl formate	109-94-4
Nitroethane	79-24-3
Ethyl acetate	141-78-6
2-Phenoxyethanol	122-99-6
Butan-1-ol	71-36-3

California List of Hazardous Substances

Ethyl formate	109-94-4
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x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 04/30/2026

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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