

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Wear suitable protective equipment. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Avoid release to the environment. Observe good industrial hygiene practices. Follow all SDS/label precautions even after container is emptied because they may retain product residues.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Keep containers closed when not in use. Store at ambient temperature and atmospheric pressure. Manufacturer recommends storing above 40 F. Do not allow material to freeze. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear suitable protective clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Eye wash fountain and emergency showers are recommended.

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Liquid.

Color White.

Odor Not available.

Odor threshold Not available.

pH 8 - 9.5

Melting point/freezing point 32 °F (0 °C) (water)

Initial boiling point and boiling range 212 °F (100 °C) (water)

Flash point > 392.0 °F (> 200.0 °C) Setaflex Closed Cup

Evaporation rate 0.3 (n-BuAc=1) (water)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 18 mm Hg at 20°C (water)

Vapor density Not available.

Relative density 1.02 at 25°C/25°C (water=1)

Solubility(ies)

Solubility (water) Dilutable

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 200 - 1000 cP Cone & Plate at 25°C

Other information

Chemical family Resin Dispersion

Density 1020.00 kg/m³ at 20°C

Explosive properties Not explosive.

Flammability Nonflammable

Flammability class Non-hazardous

Oxidizing properties Not oxidizing.

Percent volatile 40 % by weight (water)
Weighted solids 60 %

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Material is stable under normal conditions.
Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
Conditions to avoid Strong oxidizing agents. Contact with incompatible materials.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products Upon decomposition this product emits acrid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion.

11. Toxicological information

Information on likely routes of exposure

Inhalation Prolonged inhalation may be harmful.
Skin contact No adverse effects due to skin contact are expected.
Eye contact Health injuries are not known or expected under normal use.
Rosin Ester Irritation Corrosion - Eye, No eye irritation.; Data is for similar product.
Result: Negative
Species: New Zealand white rabbit
Organ: Eye
Observation Period: 7 days
Notes: OECD 405
Ingestion Health injuries are not known or expected under normal use.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Rosin Ester		
<u>Acute</u>		
Dermal		
LD50	Sprague-Dawley rat	> 2000 mg/kg At this dose no death occurred.; Data is for similar product.; OECD 402
Oral		
LD50	Sprague-Dawley rat	> 2000 mg/kg At this dose no death occurred.; Data is for similar product.; OECD 401
<u>Subchronic</u>		
Oral		
NOAEL	Sprague-Dawley rat	1757 mg/kg/day, 28 days Fertility; Developmental; Data is for similar product.; OECD 421
NOEL	Sprague-Dawley rat	600 mg/kg/day, 90 days Data is for similar product.; OECD 408

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Corrosivity

Rosin Ester

Irritation Corrosion - Skin, No skin irritation.; Data is for similar product.

Result: Negative

Species: New Zealand white rabbit

Organ: Skin

Test Duration: 4 hr

Observation Period: 72 hr

Notes: OECD 404

Serious eye damage/eye irritation

Direct contact with eyes may cause temporary irritation.

Eye Contact

Rosin Ester

Irritation Corrosion - Eye, No eye irritation.; Data is for similar product.

Result: Negative

Species: New Zealand white rabbit

Organ: Eye

Observation Period: 7 days

Notes: OECD 405

Respiratory or skin sensitization**Respiratory sensitization**

Not a respiratory sensitizer.

Skin sensitization

This product is not expected to cause skin sensitization.

Skin sensitization

Rosin Ester

Local Lymph Node Assay - Lowest Concentration Producing Reaction, Not a skin sensitizer.

Result: Negative

Species: Mouse

Organ: Skin

Notes: OECD 429

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Mutagenicity

Rosin Ester

Germ Cell Mutagenicity: Ames

Result: Negative

Species: Salmonella typhimurium

Notes: OECD 471

Germ Cell Mutagenicity: Chromosome Abberation

Result: Negative

Species: Hamster

Organ: Ovary cells

Notes: OECD 473

In vitro gene mutation study in mammalian cells

Result: Negative

Species: Mouse

Notes: OECD 476

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Rosin Ester			
Aquatic			
Algae	EL50	Algae	> 1000 mg/l, 72 hr Data is for similar product.; OECD 201
	NOEL	Algae	1000 mg/l, 72 hr Data is for similar product.; OECD 201
Crustacea	EC50	Daphnia	> 100 mg/l, 48 hr OECD 202
	NOEL	Daphnia	100 mg/l, 48 hr OECD 202
Fish	LL50	Fathead minnow (<i>Pimephales promelas</i>)	> 1000 mg/l, 96 hr At this dose no death occurred.; Data is for similar product.; OECD 203
	NOEL	Fathead minnow (<i>Pimephales promelas</i>)	1000 mg/l, 96 hr Data is for similar product.; OECD 203

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Biodegradability

Percent degradation (Aerobic biodegradation)

Rosin Ester 0 % CO₂ Evolution Test
Result: Not readily biodegradable.
Species: Activated sewage sludge
Test Duration: 28 d

Bioaccumulative potential

Partition coefficient n-octanol / water (log K_{ow})

Rosin Ester 3.97, at 20°C

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. This product is not listed on the Toxic Substances Control Act (TSCA) Inventory. It should be used according to requirements set forth in the TSCA Research & Development exemption (40 CFR 720.36). It may not be used for commercial purposes unless such uses are exempt from TSCA. One or more components are not listed on TSCA.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

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

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

NFPA ratings

Health: 1
Flammability: 1
Instability: 0

NFPA ratings



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

Issue date 02-27-2015
Revision date 12-01-2016
Version # 2.0

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Revision information

Hazard(s) identification: Supplemental information

Composition / Information on Ingredients: Disclosure Overrides

Accidental release measures: Methods and materials for containment and cleaning up

Handling and storage: Safe storage conditions (and technical measures)

Physical & Chemical Properties: Multiple Properties

Physical and chemical properties: Oxidizing properties

Physical and chemical properties: Explosive properties

Regulatory Information: Risk Phrases - Class.

Other information, including date of preparation or last revision: Disclaimer

GHS: Classification