MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name **SYLVALITE™ RE 105L**

Version # 01

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Product Code 2000156, 2000735

Manufacturer information

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Patent Information U.S. Pat. No. 5120781

2. Hazards Identification

Emergency overview WARNING! Product may form explosive dust/air mixtures if high concentration of product dust is suspended in air. Irritating to eyes. May cause sensitization by skin contact. Static charges generated by emptying package in or near flammable vapor may cause flash fire.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Skin contact. Eye contact.

Eyes Dust in the eyes will cause irritation. Fumes released during thermal processing may cause eye irritation. Molten material will produce thermal burns.

Skin Molten material will produce thermal burns. May cause sensitization by skin contact.

Inhalation Dust may irritate respiratory system. Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing.

Ingestion May cause irritation. Do not ingest.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
Modified Rosin Ester	NJTSRN-6534	99.85
Non-hazardous components	**CAS #**	**Percent**
Antioxidant	Proprietary	0.15

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately. Get medical attention if irritation persists after washing.

Skin contact Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists. If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. Remove and isolate contaminated clothing and shoes. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

Ingestion IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

General advice Take off contaminated clothing and shoes immediately. Get medical attention if symptoms occur. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties High concentrations of dust may form explosive mixture with air. Static charges generated by emptying package in or near flammable vapor may cause flash fire.

Extinguishing media

Suitable extinguishing media Water spray, dry chemical, carbon dioxide.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Fire fighting equipment/instructions Wear suitable protective equipment. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Avoid inhalation of dust from the spilled material. Avoid inhalation of fumes from molten product. Avoid contact with hot material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas.

Methods for containment ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent entry into waterways, sewer, basements or confined areas. Contain the discharged material.

Methods for cleaning up Avoid the generation of dusts during clean-up. Attempt to reclaim the free product, if this is possible. Collect and dispose of spillage as indicated in section 13 of the MSDS.

Other information Sweep up or gather material and place in appropriate container for disposal. Avoid the generation of dusts during clean-up.

7. Handling and Storage

Handling Avoid heat, sparks, open flames and other ignition sources. Ground container and transfer equipment to eliminate static electric sparks. Avoid dust formation. Do not breathe dust from this material. Observe good industrial hygiene practices. Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment if airborne dust levels are high. If product is in dust form, it is classified as a dust explosion hazard class II. Handling of product in dust form should be in accordance with NFPA. Avoid contact with hot material. Avoid breathing vapor from heated material. Product may form explosive dust/air mixtures if high concentration of product dust is suspended in air. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wear personal protective equipment. Do not use in areas without adequate ventilation. Wash thoroughly after handling.

Storage Keep away from heat, sparks and open flame. Guard against dust accumulation of this material. Keep containers closed when not in use. Store at ambient temperature and atmospheric pressure. Keep container tightly closed. Use care in handling/storage. Previously opened and resealed containers may be stored in a cool, dry place to reduce the risk of oxidation.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Additional components	Type	Value	Form
Dust	TWA	3 mg/m3	Respirable particles.
		10 mg/m3	Inhalable particles.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Additional components	Type	Value	Form
Dust	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

Engineering controls Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. Use explosion-proof ventilation equipment to stay below exposure limits. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye / face protection Safety glasses. Use tight fitting goggles if dust is generated. Wear a face shield when working with molten material. Avoid contact with eyes. Wear face-shield and protective suit for abnormal processing problems. Eye wash fountain is recommended.

Skin protection Wear suitable protective clothing and gloves. For molten product, use any type rubber thermal insulating gloves and other clothing as necessary to protect from thermal burns.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygiene considerations Avoid contact with eyes. Avoid contact with skin. Handle in accordance with good industrial hygiene and safety practice. Eye wash fountain and emergency showers are recommended. Launder contaminated clothing before reuse.

9. Physical & Chemical Properties

Appearance Flakes. Solid.

Physical state Solid.

Form Flakes.

Color Light yellow.

Odor Mild.

pH Not available.

Vapor pressure < 0.001 mm Hg at 20°C

Melting point/Freezing point Not available.

Solubility (water) < 0.1 % at 25°C

Specific gravity 1.07 at 25ºC/25ºC; (water=1)

Relative density 1.07 at 25ºC/25ºC; (water=1)

Flash point > 480 °F (> 249 °C) Setaflash Closed Cup

Auto-ignition temperature > 392 °F (> 200 °C)

VOC 0 % estimated

Evaporation rate 0 approx.; (n-BuAc=1)

Viscosity 31250 cP Brookfield at 125°C

Percent volatile < 2 % EPA Method 24

Softening point 221 °F (105 °C) Ring & Ball

Other data

Chemical family Modified Rosin Ester

Density 1070 kg/m3 at 20°C

Flammability Non flammable.

Flammability class Not classified.

Pounds per gallon 9 at 25ºC

Weighted solids 100 %

10. Chemical Stability & Reactivity Information

Chemical stability Material is stable under normal conditions.

Conditions to avoid	Strong oxidizing agents. Avoid conditions which create dust. Keep away from heat, sparks and open flame.
Incompatible materials	This product may react with 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

Toxicological data

Components	Test Results
Modified Rosin Ester (NJTSRN-6534)	Acute Oral LD50 Rat: > 5000 mg/kg Data is for similar product. Acute Oral LD50 Rat: > 2000 mg/kg At this dose no death occurred.; Data is for similar product. Acute Oral NOAEL Wistar rat: 300 mg/kg/day 8 weeks Developmental; Data is for similar product. Acute Oral NOEL Wistar rat: 1000 mg/kg/day 8 weeks Reproductive; Data is for similar product.

Sensitization

Hazardous by OSHA criteria. May cause sensitization by skin contact.

Product	Test Results
SYLVALITE™ RE 105L	50 % w/w Local Lymph Node Assay - Lowest Concentration Producing Reaction Result: Positive Species: Mouse Comments: SI=5; May cause sensitization by skin contact. Notes: OECD 429

Acute effects	Contains a potential skin sensitizer. May cause discomfort if swallowed.
Local effects	Dust in the eyes will cause irritation. Inhalation of dusts may cause respiratory irritation. Molten material will produce thermal burns. Irritating to eyes. May cause sensitization by skin contact. Fumes released during thermal processing may cause eye irritation.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Skin corrosion/irritation

May cause sensitization by skin contact.

Product	Test Results
SYLVALITE™ RE 105L	Irritation Corrosion - Skin Result: Negative Species: New Zealand white rabbit Organ: Skin Test Duration: 4 hr Observation Period: 72 hr Comments: No skin irritation.; Data is for similar product. Notes: OECD 404

Mutagenicity

Not classified.

Product	Test Results
SYLVALITE™ RE 105L	Germ Cell Mutagenicity: Ames Result: Negative Species: Salmonella typhimurium Comments: Data is for similar product. Notes: OECD 471
SYLVALITE™ RE 105L	Germ Cell Mutagenicity: Chromosome Abberation Result: Negative Species: Human Comments: Data is for similar product. Notes: OECD 473

Mutagenicity

Not classified.

Product	Test Results
SYLVALITE™ RE 105L	In Vitro Mammalian Cell Gene Mutation Test Result: Negative Species: Mouse Comments: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.; Data is for similar product. Notes: OECD 476

Serious eye damage/eye irritation

Irritating to eyes.

Product	Test Results
SYLVALITE™ RE 105L	Irritation Corrosion - Eye Result: Positive Species: New Zealand white rabbit Organ: Eye Test Duration: 4 hr Observation Period: 72 hr Comments: Data is for similar product. Notes: OECD 405

12. Ecological Information

Ecotoxicological data

Components	Test Results
Modified Rosin Ester (NJTSRN-6534)	EC50 Water flea (Daphnia magna): > 100 mg/l 48 hr Data is for similar product.

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

Persistence and degradability

Not readily degradable.

Product	Test Results
SYLVALITE™ RE 105L	46 % Result: Not readily biodegradable Comments: Data is for similar product.

13. Disposal Considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)

Not regulated

DEA Essential Chemical Code Number

Not regulated

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated

DEA Exempt Chemical Mixtures Code Number

Not regulated

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 1
Flammability: 1
Physical hazard: 0

NFPA ratings
Health: 1
Flammability: 1
Instability: 0

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