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Material Safety Data Sheet

Tall oil fatty acid

Section 1: Chemical Product and Company Identification

Product name:Tall oil fatty acid

Molecular formula: /

CAS No.: 61790-12-3

Molecular weight: /

Synonyms: /

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Section 2: Composition and Information on Ingredients

Name	CAS #	% by Weight
Tall Oil Fatty Acid	61790-12-3	100

Section 3: Hazards Identification

Signal Word(s): None Hazard Statement(s): None Product is not classified as hazardous under GHS criteria or OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 4: First Aid Measures

If inhaled

Move person to non-contaminated air. If affected person is not breathing, apply artificial respiration. Seek medical attention.

In case of skin contact

In case of skin contact, wash immediately with soap and water. If irritation develops or persists, get medical

attention. If hot product contacts skin, cool under running water and seek medical attention. Wash contaminated clothing before reuse.

In case of eye contact

Immediately flush eyes with flooding amounts of cool, low-pressure water for at least 15 minutes. If irritation persists, get medical attention. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.

If swallowed

If swallowed, contact a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by medical personnel.

Section 5: Fire and Explosion Data

Flash Point: >204° C (>400° F) (Cleveland Open Cup)

Lower/Upper explosion limit: N/A

Suitable extinguishing media: Carbon dioxide, dry chemical, or water. Avoid using a direct stream of water.

Special hazards arising from the substance or mixture: Product is not considered combustible. If heated above its flash point in the presence of air, product can support combustion. Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material. If mist is generated, minimum flash point may be reduced.

Advice for firefighters: Wear full protective clothing, including self-contained positive pressure or pressure demand breathing apparatus, helmet, and protective clothing. Use water spray to cool fire-exposed containers and to protect personnel.

Section 6: Accidental Release Measures

Containment: Contain the discharged material. Do not allow product to enter sewer or waterways. Check with local and state environmental agencies for guidance.

Clean-up Procedures: Spills may present a slipping (physical) hazard. Wear appropriate protective equipment and clothing during clean up. Absorb spill with inert material. Shovel material into appropriate container for disposal. Thoroughly wash spill area with water after clean up. WATER SPILL: product is regulated as oil under the Clean Water Act. Follow all applicable regulations. Follow all Local, State, Federal and Provincial regulations for disposal.

Evacuation Procedures: Isolate area. Keep unnecessary personnel away. In case of large spills, follow all facility emergency response procedures.

Special Instructions: Remove soiled clothing and launder before reuse (See Section 7 Storage). Avoid contact with skin and eyes. Avoid inhalation of fumes from hot product.

Section 7: Handling and Storage

Handling: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid inhalation of mists / vapors/fumes. Keep this product from heat, sparks, or open flame. Do not use air pressure or apply heat with open flame to remove contents of drum. After emptied, drum may retain solid, liquid and/or vapor residues. Continue to observe all precautions on label as if drum were full. Do not cut, puncture, torch or weld on or near the emptied drum. Do not use for other purposes. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.

Storage: Store at ambient temperature and atmospheric pressure. Porous material such as clothing, rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

Section 8: Exposure Controls/Personal Protection

Personal Protective Equipment (PPE)

Respiratory protection: GAS/VAPOR: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA' s respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit-testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage, must be implemented. For concentrations above the TLV and/or PEL but less than 10 times these limits, a NIOSH approved half-face piece respirator equipped with appropriate chemical cartridges may be used.

Hand protection: Use impervious gloves. For heated product, use any type thermal insulating gloves and other clothing as necessary to protect from thermal burns. Ensure compliance with OSHA' s personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) and 138 (hand protection).

Eye protection: Wear chemical goggles and face shield if splashing is possible. Ensure compliance with OSHA' s personal protective equipment (PPE) standard for eye and face protection, 29 CFR 1910.133.

Body protection: Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

General safety and hygiene measures: Use good industrial hygiene practices in handling this material. Eye wash fountains and emergency showers are recommended. Wash contaminated clothing before reuse.

Section 9: Physical and Chemical Properties

Appearance	Form: Light Yellow Liquid
Odor	Mild
Odor Threshold	no data available
pH	no data available
Melting point/freezing Point	4°C (39°F) Titer
Initial boiling point and boiling range	no data available
Flash point	>204°C (>400°F) (Cleveland Open Cup)
Evaporation rate	Approx. 0 (n-BuAc=1)
Flammability (solid, gas)	Non-flammable
Upper/lower flammability or explosive limits	no data available
Vapor pressure	<0.001 mm Hg at 20°C (68°F)
Vapor density	N/A
Specific gravity	0.897 at 25°C /25°C (water=1.00)
Water solubility	12.6 mg/L at 20°C (tall oil fatty acid)
Partition Coefficient: n-octanol/water	LogKow 4.9-7.6 at 30°C (tall oil fatty acid)
Auto-ignition temperature	495°F
Decomposition temperature:	no data available
Viscosity:	20 cP at 25°C
Explosive properties:	no data available
Acid Number	197 typical

Section 10: Stability and Reactivity Data

Conditions to avoid: Avoid strong oxidizing agents. Avoid prolonged contact with porous materials.

Substances to avoid: This product may react with strong oxidizing agents.

Hazardous reactions: This product is stable. Hazardous polymerization will not occur.

Decomposition products: None, except extreme high temperatures may lead to decomposition, releasing fumes containing carbon monoxide, carbon dioxide, water, trace sulfur oxides, and/or hydrocarbons of varying molecular weights.

Section 11: Toxicological Information

Eye: Direct contact with product may cause mild eye irritation. If heated product contacts the eye, thermal burns may result.

Skin: Product may cause mild skin irritation after prolonged contact. If heated, product can cause thermal burns.

Inhalation: Exposure to oil mists /vapors/fumes may cause respiratory tract irritation. Inhalation of mists /vapors/fumes generated by heating this product may cause respiratory tract irritation with throat discomfort, coughing and difficulty breathing.

Ingestion: Ingestion of large quantities may result in gastrointestinal disturbances including irritation,

nausea, and diarrhea. Aspiration into lungs may cause severe damage, including chemical pneumonitis and pulmonary edema.

Acute toxicity

LD50 Oral - rat - >10,000 mg/kg

LD50 Dermal - rabbit - >2,000 mg/lg

Skin corrosion/irritation

Not found to be a skin irritant in rabbits

Serious eye damage/eye irritation

Not found to be an eye irritant in rabbits

Respiratory or skin sensitization

Not found to be a skin sensitizer in the Buehler or Guinea Pig Maximization Test (GPMT)

Germ cell mutagenicity

Non mutagenic in the AMES Salmonella Assay. Chromosomal aberrations in Chinese hamster ovary (CHO) cells were evident only at concentrations that were overtly toxic to the cells .

Carcinogenicity

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No alteration of reproductive physiology was found in rats at feeding levels of 5% and 10% of their diet. No evidence of reproductive or developmental toxicity in a full two-generation study.

Reproduction/Developmental NOEL = 5000 mg/kg/day

Section 12: Ecological Information

Ecotoxicity (for Tall oil fatty acid):

Acute Toxicity, Fish: 96-hr LL50 >1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF

Acute Toxicity, Daphnia: 48-hr EL50 > 1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF

Growth Inhibition, Algae: 72-hr EL50 for AUC= 854.90 mg/l loading rate WAF, NOEL 500 mg/l loading rate WAF

Biodegradability: 56%, 74%, 84% degradation after 28 days (three tests), readily Biodegradable indicating not expected to persist in the environment (for Tall oil fatty acid)

Bioaccumulative

Potential: Partition Coefficient (LogKow) 4.9-7.6 (OECD 117), upper range indicates potential to bioaccumulate (for Tall oil fatty acid)

Other: When spilled, this product may act as an oil, causing a film, sheen, emulsion, Or sludge at or beneath the surface of a body of water. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effects on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and beaches.

Section 13: Disposal Considerations

Waste disposal of substance: Waste material must be tested using methods described in 40 CFR 261 to determine if it meets applicable definitions of hazardous waste. No EPA Waste Numbers are applicable for this product’s components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material.
DOT Proper Shipping Name: None
DOT Identification Number: None
Packing Group: None
Hazardous Substances
Reportable Quantity: None
Special Provisions for Transport: IF SHIPPED OVER 100° C (but less than flash point): DOT
Shipping Name: Elevated Temperature Liquid, n.o.s.; Hazard Class: 9;
UN/NA Number: UN3257; Packing Group III; bulk shipping requires
“HOT” placard
Additional Shipping Information: Not a Marine Pollutant
International Transportation
Regulations: Not classified
This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Other Regulatory Information

TSCA: This product is on the Toxic Substances Control Act (TSCA) Inventory.
SARA TITLE III:
SARA 302 (40 CFR 355): None of this product’s components are listed.
SARA 311/312 (40 CFR 370.2): None.
SARA 313 (40 CFR 372.65): None of this product’s components are listed.
CERCLA (40 CFR 302.4): None of this product’s components are listed.
EPA, Clean Water Act: Regulated as non-petroleum based oil. Spills of this material to navigable waters in quantities sufficient to produce “sheen” are reportable.
International Inventories: This product is either listed or exempt from listing on the following inventories: Canada DSL, Europe EINECS, Japan ENCS, Korea ECL, Australia AICS, China IECS and Philippines PICCS.
State Lists: None of this product’s components are listed in FL, MA, MN, NJ or PA.
Other: Use as animal feed is prohibited in the United States. Similar regulations may restrict such use in other locations.

Section 16: Other Information

DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.