

MATERIAL SAFETY DATA SHEET

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier Tallow Fatty Acid TRT11,TRT11E, TRT11D,TRT18, TRT20, TRT-22		[HMIS Classification] Health - 1 Flammability - 0 Physical Hazard - 0	
Product Use The most common uses for this product include being used for the production of soaps, emulsifiers, lubricants, carriers, and soap surfactants.			
Manufacturer's Name Twin Rivers Technologies		Supplier's Name Twin Rivers Technologies	
Street Address 780 Washington Street		Street Address 780 Washington Street	
City Quincy	Province MA	City Quincy	Province MA
Postal Code 02169	Emergency Telephone 617-413-5339	Postal Code 02169	Emergency Telephone 617-413-5339
Date MSDS Prepared March 23, 2010		MSDS Prepared By Twin Rivers Technologies	Phone Number 617-472-9200

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients (<i>specific</i>)	%	CAS Number	LD ₅₀ of Ingredient (<i>specify species and route</i>)	LC ₅₀ of Ingredient (<i>specify species</i>)
Fatty Acids, C14-18 and C16-18 unsaturated	100	67701-06-8	Oral, Rat >10 g/kg	

Route of Entry Skin Contact Skin Absorption Eye Contact Inhalation Ingestion

[Emergency Overview]

SECTION 3 — HAZARDS IDENTIFICATION

- European Hazard Classification: This product is not classified as dangerous according to Directive 67/548/EEC.
- Emergency Overview: North America Non-Hazardous
- Potential Health Effects:
 - Eye: Accidental exposure to the eyes will cause only a mild but transient irritation.
 - Skin: No harmful effects expected with normal use. Heated product may cause thermal burns if contacted.
 - Inhalation: Not applicable at ambient temperature.
 - Ingestion: Incidental ingestion should not cause injury.

If product is heated, vaporization can occur. Eye, skin, and upper respiratory irritation may occur.
- Physical/Chemical Hazards: None identified.
- Environmental Hazards: None identified.

SECTION 4 — FIRST AID MEASURES

- Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- Skin: Wash skin with soap and water upon contact. Remove contaminated clothing. If irritation develops, get medical attention. Wash clothing before reuse.
- Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
- Ingestion: If swallowed, do not induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

SECTION 5 — FIRE FIGHTING MEASURES

Flammable <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, under which conditions?	
Means of Extinction SMALL FIRES: Use CO2 or dry chemical. LARGE FIRES: Use foam.		
Flashpoint (° C) and Method >300° F (149° C) PMCC	Upper Flammable Limit (% by volume) Not available	Lower Flammable Limit (% by volume) Not available
Autoignition Temperature (°C) Not available	Explosion Data — Sensitivity to Impact Not available	Explosion Data — Sensitivity to Static Discharge Not available
Hazardous Combustion Products Does not decompose up to 400° F (204° C). Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide.		
[NFPA] Wear self-contained breathing apparatus and full protective clothing. Cool containers with flooding quantities of water until well after fire is out.		

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Leak and Spill Procedures
Neutralization not required. Contain spill. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for disposal. Dispose as any grease or oily material in compliance with Federal, State, and/or Local requirements. Minimize contamination of drains, surface and ground waters.
An appropriate NIOSH/MSHA approved respirator should be used if a mist, vapor or dust is generated. Wear suitable gloves and eye/face protection. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

SECTION 7 — HANDLING AND STORAGE

Handling Procedures and Equipment
Handle in accordance with good hygiene and safety procedures. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Since empty containers contain product residue and can be dangerous, follow all hazard warnings and precautions even after container is emptied. Keep away from sources of ignition.
Storage Requirements
Keep away from possible contact with incompatible substances. Should be stored in resin-lined steel, aluminum, stainless steel, or reinforced fiberglass vessels. Do not store near possible sources of ignition.
Specific use(s): Follow bulk handling and storage procedures as noted above.

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits <input type="checkbox"/> ACGIH TLV <input type="checkbox"/> OSHA PEL <input type="checkbox"/> Other (specify)
Specific Engineering Controls (such as ventilation, enclosed process) General Precautions: Good industrial hygiene should be followed. Avoid breathing (heated) vapors. Avoid eye and skin contact.
Local exhaust - preferred
Mechanical - may be necessary if working at elevated temperatures or in enclosed areas.
Personal Protective Equipment <input checked="" type="checkbox"/> Gloves <input checked="" type="checkbox"/> Respirator <input checked="" type="checkbox"/> Eye <input checked="" type="checkbox"/> Footwear <input checked="" type="checkbox"/> Clothing <input type="checkbox"/> Other
If checked, please specify type Eye: Goggles or face shield with goggles, dependent upon potential exposure. Skin: Protective gloves: Rubber or plastic Dependent upon degree of potential exposure, additional personal protective equipment may be required, such as chemical boots and full protective clothing. Inhalation: None required for ambient temperature, although an appropriate NIOSH/MSHA approved air-purifying respirator should be used if a mist, vapor or dust is generated. A NIOSH/MSHA approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres. Other Controls: Boots, eye wash fountain, safety shower, apron, protective clothing.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Physical State @ 72° F (22° C): Solid	Odour and Appearance Musty, fatty, Water white to yellow	Odour Threshold (ppm) Not available
Specific Gravity 0.85 - 0.90 @ 49/25° C	Vapour Density (air = 1) Not available	Vapour Pressure (mmHg) @ 72° F (22° C) < 1 mm Hg
Evaporation Rate Not available	Boiling Point (° C) Over 500° F (260° C) @ 760 mm Hg (101.3kPa)	Freezing Point (° C) Not available
pH Not available	Coefficient of Water/Oil Distribution Not available	[Solubility in Water] Negligible @ 72° F (22° C)

SECTION 10 — STABILITY AND REACTIVITY

Chemical Stability <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If no, under which conditions? Stable under normal operational conditions.
Incompatibility with Other Substances <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, which ones? Avoid strong oxidizing agents.

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Reactivity, and under what conditions?
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Hazardous Decomposition Products

Does not decompose up to 400° F (204° C). Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide. • Hazardous Polymerization: Will not occur.
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SECTION 11 — TOXICOLOGICAL INFORMATION

Effects of Acute Exposure

No harmful effects expected

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Effects of chronic exposure

No harmful effects expected

Irritancy of Product Mild irritation

Skin sensitization Mild irritation	Respiratory sensitization Mild irritation
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Carcinogenicity-IARC None	Carcinogenicity - ACGIH None
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Reproductive toxicity None	Teratogenicity None
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Embrototoxicity None	Mutagenicity None
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Name of synergistic products/effects None

SECTION 12 — ECOLOGICAL INFORMATION

[Aquatic Toxicity]

The 96 hour LC50 for Bluegills was greater than 1,000 mg/l. This result indicates that the hazard posed by this material to Bluegills is insignificant.
Microbiological Inhibition: No inhibition to 600 mg/L

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste Disposal

DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL REGULATIONS.
Do not dispose of via sinks, drains or into the immediate environment.

SECTION 14 — TRANSPORT INFORMATION

Special Shipping Information

Not classified in RID/ADR - ADNR - IMDG - ICAO/IATA - DGR

PIN

TDG

[DOT]

Not regulated

[IMO]

[ICAO]

SECTION 15 — REGULATORY INFORMATION

This product when tested as a whole is not a controlled substance within the meaning of the Hazardous Products Act.

[OSHA]

[TSCA]

INVENTORY STATUS: Listed on TSCA (USA), AICS (Australia), DSL (Canada), IECSC (China), EINECS (EU), KECI (Korea), New Zealand (Composite List of Single Component Substances to be considered for Transfer (April 2003)), PICCS (Philippines)

WGK water endangering class is

based on the computation rule of VwVwS Annex 4 for mixtures.

1, slightly water endangering

SECTION 16 — OTHER INFORMATION**Canada**

HAZARDOUS INGREDIENTS – WHMIS (Canadian Workplace Hazardous Materials Information System) This product when tested as a whole is not a controlled substance within the meaning of the Hazardous Products Act. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

EUROPE

This product safety data sheet was prepared in compliance with Directive 2001/58/EC.

References: Fatty Acid Producers' Council Report, Acute Toxicity & Irritation Studies. January 23, 1974.

Fatty Acid Producers' Council Report, Corrosivity Study on a Series of Nine Materials. July 5, 1974.

The following sections contain revisions or new statements: 1.

Department issuing MSDS: Product Safety and Regulatory Affairs 1-800-477-8899

The submission of the MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied are for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific product designated herein, and does not relate to use in combination with any other material or any other process. Twin rivers Technologies assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the controlled product.