MATERIAL SAFETY DATA SHEET

DAUBERT CHEMICAL COMPANY

4700 SOUTH CENTRAL AVENUE
CHICAGO, ILLINOIS 60638
TELEPHONE: (708) 496-7350
FAX: (708) 496-7357

EMERGENCY CONTACT:
CHEMTREC: (800) 424-9300

HMIS HAZARD RATING	
HEALTH	1
FIRE	2
REACTIVITY	0
PERSONAL PROTECTION	X

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By: R. Aiello

SECTION I: PRODUCT IDENTIFICATION

Product Name: **Tectyl 669-199 Biodegradable cleaner penetrant rust inhibitor**
Chemical Family: Modified oil soluble sulfonate in limonene base
Material Usage: Rust preventative

SECTION I1: COMPOSITION

Component	CAS #
One or More Oil Soluble Sulfonates	Trade Secrets
Citrus Terpenes	94266-47-4

SECTION III: HAZARDS INFORMATION

Emergency Overview:

669-199 is composed of > 95% biodegradable components and is GRAS (Generally Recognized as Safe).

Appearance/Odor: Amber to yellow liquid with citrus aroma

Product is Combustible.

Slippery when spilled.
Potential Helath Effects: See section II for more information.
Likely Routes of Exposure- Eye contact, skin contact, inhalation.
Eye: Causes moderate to severe irritation.
Skin: May cause slight redness. Prolonged or repeated exposure may cause drying of the skin.
Inhalation: May cause nose, throat, and respiratory tract irritation, coughing , and headache.
Ingestion: Not likely to be toxic, but may cause vomiting, headache, or other medical problems.
Medical Conditions Aggravated By Exposure: May irritate the skin of people with pre-existing conditions.

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC, ACGIH, or NTP

SECTION IV: FIRST AID MEASURES

Immediate treatment:
Eve contact: May cause eye irritation. Flush with large amounts of water for at least 15 minutes. Call a physician. DO NOT WEAR CONTACT LENSES.
Skin contact: Wash skin thoroughly with soap and water after handling. Prolonged or repeated contact may cause dermatitis (skin irritation).
Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and call a physician.
Ingestion: No data available. Contact a physician.

General: As with any chemical, wear protective gloves, and prevent direct contact. Wash hands with soap and water after handling this material.

NOTE TO PHYSICIANS
Routes of entry: Eyes, skin, ingestion, inhalation of mist.
Target organs: Eyes, skin, respiratory system.

SECTION V: FIRE AND EXPLOSION HAZARD DATA

Extinguishing media: Dry chemical, CO_2, foam, or sand/earth. Closed containers may be cooled with water. Caution: Carbon dioxide will displace air in confined spaces and may create an oxygen deficient atmosphere.
Unsuitable Extinguishing Media: Water.
Products of Combustion: Forms acrid fumes, carbon monoxide, and carbon dioxide.
.**Protective equipment:** Vapors may be irritating to eyes, skin and respiratory tract. Firefighters should wear self-contained breathing apparatus (SCBA) and full fire-fighting turnout gear.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Procedures for spill clean-up: Shut off leak and dike up large spills. Absorb with an inert material such as sand, soil or vermiculite Sweep up absorbent and dispose according to regulatory requirements.

SECTION VII: HANDLING AND STORAGE

Handling: Keep away from heat, sparks, and flame. Open container slowly to release pressure caused by temperature variations. Do not allow this material to come in contact with eyes. Avoid prolonged contact with skin. Use in well ventilated areas. Do not breathe vapors.

Keep drums tightly closed to prevent contamination. Avoid skin and eye contact. Wear recommended personal protection equipment. Discard or wash contaminated clothing before reuse.

Storage: Product may be packaged in phenolic-lined steel containers or fluorinated plastic containers. Store in well ventilated area with proper sprinkler/fire deterrent system. Storage temperature should not exceed the flash point for extended periods of time. Keep container closed when not in use. Air should be excluded from partially filled containers by displacing with nitrogen or carbon dioxide. Do not cut, drill, grind or weld on or near this container, residual vapors may ignite.

ATTENTION: Never use pressure to empty drums.
Storage: Maximum storage temperature: 110 ^{0}F (43^{0}C)

SECTION VIII: EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure Guidelines
Citrus Terpenes 8h TWA = 30 ppm (AIHA Standard)

TWA – Time Weighted Average
Ventilation required: Provide ventilation. Keep away from sparks and flames.
Respiratory protection: None required if area adequately ventilated. If adequate ventilation is unavailable, use NIOSH approved air-purifying respirator with organic vapor cartridge or canister. Use appropriate respiratory protection if used in confined areas. If used in an application where a mist may be generated, observe a TWA/PEL of 5 mg/m^3 (OSHA, ACGIH) for a mineral oil mist. Use a respirator with dual organic vapor/mist arid particulates cartridge if *vapor* concentration exceeds permissible exposure limit.
Skin reaction: Use nitrile type gloves and apron.
Eye protection: Wear chemical safety goggles and/or a face shield. Contact lenses should not be worn.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 25 ^{0}C:	low viscosity liquid
Color:	Yellow to amber
Odor:	Citrus
Changes in physical state at 1 bar:	No data available/none expected
Density at 16 ^{o}C (gm/cm^3) :	>0.86
Vapor pressure at 20 ^{0}C (mm Hg):	< 2mm Hg@68^{0}F (20^{0}C)
Vapor density (air=1) :	Not applicable
Viscosity at 40 ^{0}C :	< 2 cst
Solubility in H_2O at 25 ^{0}C:	slight
pH(1%):	> 7.00
Flash point (ASTM D-92):	> 110 ^{0}F (43^{0}C)
Autoignition temperature:	458 ^{0}F (237^{0}C)
Flammability limits in air:	LEL approx. 0.7%, UEL approx. 6.1%
Volatile:	>75% by volume

SECTION X: STABILITY AND REACTIVITY

This product is stable and not subject to hazardous polymerization.

Hazardous decomposition products: Oxides of citrus terpenes, which can result from improper storage and handling, are known to cause skin sensitization
Incompatible materials: Strong oxidizers such as hydrogen peroxide, oxidizing chlorine and bromine compounds (e.g. chlorine bleach), including acidic clays, iodine pentafluoride and chromic acid.
Conditions to avoid: Keep away from heat, sparks and flames. Oxidizing agents; skin and eye contact.

SECTION XI: TOXICOLOGICAL INFORMATION

Acute toxicity: Citrus terpenes have been shown to have low oral toxicity (LD50 > 5 g/kg and low dermal toxicity (LD50 > 5 g/kg) when tested on rabbits. Citrus terpenes also showed low toxicity by inhalation (RD50>1g/kg) when tested on mice. The skin irritancy of citrus terpenes in guinea pigs and rabbits is considered moderate and low, respectively. Inhalation may cause irritation on the nose, throat, and respiratory tract..
Chronic toxicity: This product is not classified as a carcinogen by OSHA, IARC, ACGIH or NTP. Prolonged ore repeated exposure can cause drying or dermatitis of skin. Improper storage and handling may lead to the formation of a possible skin sensitizer.

SECTION XII: ECOLOGICAL INFORMATION

Ecotoxicity: There is no information available at this time for this product. A spill, however, may produce significant toxicity to aquatic organisms and ecosystems. Some studies have shown that certain bacteria and fungi have the ability to degrade terpenes, decreasing their toxicity to fish. When spilled this product may act as an oil, causing a film, sheen, emulsion or sludge at or benaeath the surface of a body of water.
Persistence/Degradability: Product is expected to be readily biodegradable.

Bioaccumulation/Accumulation: No appreciable bioconcentration is expected in the environment.
Mobility in Environment: Citrus terpenes volatilize rapidly.

SECTION XIII: DISPOSAL CONSIDERATIONS

Disposal Considerations: Incinerate or dispose of in accordance with Local. State and Federal regulations. Taking regulations into consideration, waste may be incinerated or handeled through EPA Spill Control Plan vial landfill or dilution. Commercially clean containers prior to disposal. Oil soaked rags should be disposed of properly to prevent spontaneous combustion.

SECTION XIV: TRANSPORTATION INFORMATION

US DOT shipping Classification

Proper Shipping Name:	TERPENE HYDROCARBONS, N.O.S.
Hazard Class:	3
Identification No:	UN 2319
Packing Group:	III
Label/Placard:	exception §173.150(f) applies**.**
TDG Status:	Hazardous
IMO Status:	Hazardous
IATA Status:	Hazardous

The listed transportation classification doe not address regulatory variations due to changes in package, size, mode of shipment or other regulatory descriptions.

SECTION XV: REGULATORY INFORMATION

The United States FDA lists this version of citrus terpernes as GRAS in 21 CFR section 182.20 and 182.6

Citrus terpenes are 100% natural , biodegradable product extracted from the peel of citrus fruit.

Proposition 65 – California Safe Drinking Water and Toxic Enforcement of Act of 1986
This product is not known to contain any chemical currently listed as carcinogens or reproductive toxins under California Proposition 65 at level which would be subject to the proposition.
Canadian WHIMS: Not a "Hazardous Product" under W71-IIMS classifications.
Chemical Inventory Information: All the components of this product are listed in the following chemical inventories: TSCA (United States) ETNECS (European Union). ENCS (Japan), AICS (Australia), DSL (Canada).

SARA Title III (Section 313)
This substance contain no materials subject to the reporting requirements of SARA Title III (Section 313)

SECTION XVI: OTHER INFORMATION

We believe the statements, technical information and recommendations contained herein are-reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use. The information shall not-be regarded as legally binding assurance of certain properties or suitability for a particular application.

EINECS Number: 304-454-3

Comments: This product has not been tested in long term, chronic exposure, therefore, the handling procedures and safety precautions in the MSDS should he followed to minimize employee exposure.
Label Information for the United States:
CAUTION: May cause skin and eve irritation. Do not swallow. Avoid eye and skin contact. Wash thoroughly after handling. Avoid contact with clothing. Wash clothing before reuse. Keep out of reach of children. Keep containers tightly closed when not in use. Avoid breathing mists or sprays of this product or its solutions.

EMERGENCY FIRST AID PROCEDURES

Eye contact: Flush with large amounts of water for at least 15 minutes. Call a physician.
Skin contact: Wash skin thoroughly with soap and water after handling. If hot material contacts skin, immediately cool before attempting removal. Cool with water or ice. Apply topical dressing. Severe blistered bums should be treated by a physician.
Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and call a physician.
Ingestion: Call a physician. Induce vomiting if victim is conscious. Never give anything by mouth to an unconscious person.

FOR INDUSTRIAL USE ONLY. SEE SAFETY DATA SHEET FOR DETAILED INFORMATION.
ATTENTION: Never use pressure to empty container, a drum is not a pressure vessel. V/hen empty, drum may have vapor or product residue. Residual vapors may explode on ignition; do not puncture, drill, grind, or weld on or near this container.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use. The information shall not be regarded as legally binding assurance of certain properties or suitability for a particular application.