



MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

Product(s)	TribotEX® DLC engine coating and wear reversal treatments for lubricated parts of engines, transmissions, gearboxes, differentials, etc.
Relevant UPC Codes Product names and descriptions may vary across selling platforms.	856221006006 (TribotEX Engine – Original Formula) 856221006013 (TribotEX Engine – Mini Formula) 856221006082 (TribotEX Engine – Diesel Formula) 856221006020 (TribotEX Engine – Big Rig Formula) 856221006501 (TribotEX Engine – Single Cylinder Formula) 856221006105 (TribotEX Transmission – Automatic Formula) 856221006129 (TribotEX Transmission – Manual Formula) 856221006136 (TribotEX Transmission – Differential Formula) 856221006174 (TribotEX Transmission – XL Formula) 856221006181 (TribotEX Transmission – XXL Formula) 856221006198 (TribotEX Transmission – Power Steering Formula) 856221006112 (TribotEX Pocket) 856221006556 (TribotEX Cooling Pump) 856221006525 (TribotEX Hydraulic Fluid)
Company Identification	TribotEX, LLC 1008 S East St Colfax, WA 99111-1504
Information Phone Number	+1 (509) 339-7771
Emergency Phone Number	+1 (509) 339-3737 (Technical Expert)
Additional Information	support@tribotex.com

2. IDENTIFICATION OF HAZARDS

Physical	Non-Hazardous
Health	Skin Irritant Eye Irritant Not approved for consumption

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3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	AMOUNT
Synthetic Ester Oils/Plant Based Oils Blend	Proprietary	70% - 99%
Synthetic Nano MSH Nanosheets (sticky/slippery)	Proprietary	Concentration Ranges 1 [g/L]-50 [g/L]-750 [g/L]
Catalyst Package (<i>variable based on application and packaging</i>)	Proprietary	< [0.5% wt/wt]
Thickening Agent	8012-89-3	≈ 25 [g/L] <i>available in consumer vehicle formulations ONLY</i>
Fragrance Package (<i>variable based on application and packaging</i>)	Proprietary	< [1% wt/wt]
Color Package (<i>variable based on application and packaging</i>)	Proprietary	< [1% wt/wt]

Exact concentrations of TribotEX® formulates vary depending on application specific interface requirements, which are considered a trade secret. In lubricated systems, TribotEX nanomaterial concentrations are less than 1%, by weight of lubricant fluid [1g nanomaterial] per [5L of Lubricant *on average in standard Consumer Vehicles*]. Formulations dispensed in containers for Consumer Vehicle Use contain approximately 50 grams of nano Synthetic MSH Nanosheets per Liter of Blended Carried Oil. Concentrated formulations for bulk distribution and heavy industry applications can range in Synthetic MSH Nanosheet concentrations from 100 g/L to 500 g/L. Consumer Vehicle drop-in ready packages are available with [1g] synthetic nano-MHS suspended in a gelled matrix dispersion packaged into a syringe container [*container volume approx 10/20mL*] and a double concentrate (2x version) with [2g] synthetic nano-MHS suspended in a gelled matrix dispersion in a syringe container [*container volume approx 20mL*].

4. FIRST AID MEASURES

Ingestion	Seek medical attention/advice or call the poison control center for advice. Do NOT induce vomiting.
Eye Contact	Flush eyes with water. If symptoms and/or irritation develop in affected eye seek medical attention.
Skin Contact	Remove contaminated clothing. Wash, thoroughly, with soap and water. If irritation, redness, discomfort, or any other symptoms develop in the affected area seek medical attention.

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Inhalation	In the case of prolonged exposure in unventilated areas or if any breathing problems develop remove to fresh air immediately. If any breathing issues, irritation, coughing, or discomfort persist seek medical attention.
Exposure Symptoms	May cause eye irritation. Ingestion may cause dizziness, drowsiness, gastrointestinal disturbances, abdominal pain, nausea, and general discomfort. Prolonged skin exposure leads to irritation. Consistent overexposure in poorly ventilated areas, for prolonged periods of time, can lead to central nervous system effects, respiratory irritation, and other adverse effects. Similar to most oil based lubricants.

5. FIRE-FIGHTING MEASURES

Extinguishing Media	Use carbon dioxide, dry chemical, solvent foam, or water spray to extinguish flame. Containers exposed to heat and flames may be cooled with water.
Specific Hazards from Combustion	Material is not classified as flammable or combustible but, as with any petroleum or plant derived oils, the material will burn under fire conditions. Burning may produce toxic fumes. Exposure of containers to flames and excessive heat may result in rupture. Burning material may possibly spread flames as it will float on water.
Special Procedures for Firefighters	Firefighters should full protective equipment and self-contained breathing apparatus. Use shielding to avoid containers bursting from heat exposure. Cool exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

Protective Measures, Precautions, and Emergency Procedures	Ventilate area. Wear appropriate protective equipment. Avoid slipping hazard caused by spilled material.
Methods for Clean Up and Containment	Collect using inert absorbents and place into leak proof containers. Dispose contaminated absorbance in accordance to local regulations.

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Environmental Precautions Prevention of soil, and or water contamination should be a priority, if it can be accomplished without risk of injury. Contaminated soil should be removed if doing so is feasible and appropriate.

Report release of material as required by regulations.

7. HANDLING AND STORAGE

Handling Precautions

- Use product in well ventilated areas.
- Avoid contact with eyes and skin.
- Do NOT ingest.
- Wash thoroughly with soap and water after handling material.

Storage Conditions Store containers in a cool area with adequate ventilation. Keep away from heat sources and incompatible materials.

Empty containers may be hazardous and are known to contain material residues. Do NOT reuse containers. Do NOT drill, cut, weld, solder, etc. any empty containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines None have been established. Consider potential hazards for selecting personal protective equipment to limit exposure.

Engineering Controls General ventilation is commonly adequate for normal usage. Consider forced ventilation, such as exhaust fans, if excessive exposure to vapors is present.

PERSONAL PROTECTIVE EQUIPMENT

Gloves Impervious to avoid skin contact.

Eye Protection Safety glasses aid in reducing eye exposure and are recommended.

Respiratory Protection Respiratory equipment is not required under normal use conditions. In operations with excessive exposure a NIOSH approved supplied air respirator is recommended.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor	Colored with ethereal petroleum odor. Consumer formulations contain fragrance packages producing a fruity smell.
Physical state	From running liquid to solidified gel
Odor Threshold	Not Quantified
VOC Content	Not Quantified
Evaporation Rate	Not Quantified
Vapor Density	(Air=1) 9
Vapor Pressure	0.001 mmHg @20°C
Decomposition Temperature	Not Quantified
Melting/Freezing Point	Not Applicable
Solubility in Water	< 0.5%
pH	Not Quantified
Initial Boiling Point	>200°C
Specific Gravity	0.9
Flammability Limits	Not Quantified
Flash Point	226°C
Coefficient of Water/Oil Distribution	Not Quantified
Auto-Ignition Temperature	Not Quantified
Flame Extension Flammability (solid, gas)	Not Applicable

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10. STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions
Chemical Stability	Stable under normal conditions
Hazardous Conditions	Keep away from heat sources and open flames
Incompatible Materials	Strong oxidizers
Hazardous Decomposition Products	Aldehydes, alcohols, ethers, and organic acids may result from thermal decomposition, when burned

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:	Acute Hazards
Ingestion:	Ingestion may cause gastrointestinal disturbances, abdominal pains, dizziness, headaches, drowsiness, and discomfort.
Inhalation:	Overexposure and prolonged repetitive inhalation may lead to central nervous system effects along with respiratory tract irritation.
Eye Contact:	Direct contact may cause irritation, redness, and pain.
Skin Contact:	Direct contact may cause skin irritation.
Chronic Effects:	Prolonged and repetitive overexposures can lead to adverse health and reproductive effects.

12. ECOLOGICAL INFORMATION

Ecological Toxicology:	Ecological toxicology has not been quantified. However, care should be taken to avoid soil and water contamination. Do NOT dispose of materials in sewer systems, drains, streams, soil, or bodies of water.
Biological Accumulation:	Has not been quantified
Soil Mobility:	Has not been quantified

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13. DISPOSAL

Dispose of materials in accordance to local regulations pertaining to petroleum lubricants. Recycle empty containers at approved facilities.

14. TRANSPORTATION INFORMATION

DOT Hazardous Material Description Not regulated for transport

IMDG Dangerous Goods Description Not regulated for transport

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard 29 CFR 1919.1000

OSHA PELs 29 CFR 1910.1000 and 1910.1053 EPA SARA Section 313 and 40 CFR Part 372; Nickel and Titanium are listed EPA Waste Disposal Regulations

California Proposition 65 (Silicon Dioxide, Mineral Oil, Nickel)

INVENTORY STATUS: U.S.EPA TSCA: This produce is in compliance with the Toxic Substance Control Act's Inventory requirements.

CANADIAN CEPA DSL: The components of this product are included on the DSL or are exempt from DSL requirements.

EUROPEAN REACH: As a result of the introduction of Reach into Europe, this product currently excluded from regulation due to import to Europe < 1 ton year.

AUSTRALIA AICS: This product contains a component that is not on the Australian Inventory (AICS). If you need more information about the inventory of this product, call 509-339-3737.

16. OTHER INFORMATION

NFPA RATING		HMIS RATING	
Health	2	Health	2
Fire	1	Fire	1
Instability	0	Physical Hazard	0