SAFETY DATA SHEET

Section 1 – Identification

Product Identifier: TriboDyn Tri-Ex2 Grease

Part Number: TRI-TriEx2

Recommended Use: Performs under EXTREME HEAT & PRESSURE applications, reduces operating temperature, reduces fiction & wear, increases part life, protects against rusting & corrosion, & does not break down during service.

Restrictions on Use:
Keep out of reach of children.
Not recommended for use on Medical equipment.

Manufacturer / Supplier:
TriboDyn Technologies, Inc.
109 Summerville Drive
Mooresville, NC 28115, USA
Phone 859-750-6299
Fax 704-972-9852
Email: Info@TriboDyn.com Website: www.TriboDyn.com

Emergency Phone: (TriboDyn) 1-859-750-6299 USA
Call between business hours: 8:00am – 5:00pm EST

Section 2 – Hazards Identification

Signal Word: Warning

Symbols:

Hazard Statements:
Causes Serious Eye Irritation
May cause an allergic skin reaction
Harmful if inhaled
May cause respiratory irritation.

GHS Classification:	Category
Eye Irritation	2A
Sensitization – Skin	1
Acute Toxicity Inhalation	4
Specific Target Organ Toxicity Single Exposure	3

Precautionary Statements:

Wear protective gloves, eye protection. Wash hands, face and skin thoroughly after handling. Avoid breathing dust / fume / vapors. Use only outdoors or in a well-ventilated area. Store locked up. Contaminated work clothing must not be allowed out of the workplace.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center / doctor if you feel unwell.

If in eyes: Rinse cautiously in water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice / attention.

If on skin: wash with plenty of water. If skin irritation or rash occurs: Get medical advice / attention. Wash contaminated clothing before reuse.

Dispose of contents / containers in accordance with local regulations. (See Section 13)

Section 3 – Composition / Information on Ingredients

Component Name	Common Name / Synonyms	CAS#	% of Weight
Trade Secret		Trade Secret	> 11%
Molybdenum Disulfide	MoS_2	1317-33-5	> 4%
BENZENAMINE, N-PHENYL-, REACTION PRODUCTS WITH 2,4,4-TRIMETHYLPENTENE		68411-46-1	1 - < 5%
ZINC DITHIOPHOSPHATE		68649-42-3	1 - 2.5%
2,5-DIMERCAPTO-1,3,4-THIADIAZOLE DERIVATIVE		13539-13-4	0.1 - < 1%

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

Section 4 – First Aid Measures

General Advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact:

Wash off with soap and plenty of water. Consult a physician if irritation persists.

In case of eye contact:

Rinse cautiously in water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice / attention.

If swallowed:

Rinse mouth with water. Consult a physician.

Section 5 – Fire Fighting Measures

Extinguishing Media: Use water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.	**Special Fire Fighting Procedures:** Wear self-contained breathing apparatus for firefighting if necessary.
Unusual Fire and Explosion Hazards: Hazardous decomposition products formed under extreme fire conditions. - Carbon and other oxides, Hydrogen fluoride, aldehydes, fume, smoke.	**Additional Information:** Use water spray to cool unopened containers.

Section 6 – Accidental Release Measures

Notification: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

Methods for Containment and Clean Up

- Land Spill
- Scrape up spilled material with shovels into a suitable container for recycle or disposal.
- Water Spill

- Stop leak if you can do it without risk. Confine the spill immediately with booms.
- Warn other shipping. Skim from surface.
- Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.
- Wear protective equipment
- Gloves
- Safety Glasses
- For emergency responders:
- Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.
- Prevent entry into waterways, sewers, basements, or confined areas.

Additional Information:

- See Section 7 for safe handling information.
- See Section 8 for PPE information
- See Section 13 for disposal information

Section 7 – Handling and Storage

Handling:

Avoid contact with skin and eyes. Prevent small spills and leakage to avoid slip hazard.

Storage:

Do not store in open or unlabeled containers. Keep away from incompatible materials.

Section 8 – Exposure Controls and Personal Protection

Component	ACGIH TLV	OSHA PEL	
Trade Secret	2.5 mg / m3	2.5 mg / m3	
Molybdenum Disulfide	10 mg/m3	10 mg/m3	
BENZENAMINE, N-PHENYL-, REACTION PRODUCTS WITH 2,4,4-TRIMETHYLPENTENE	No data available	No data available	
ZINC DITHIOPHOSPHATE	No data available	No data available	
2,5-DIMERCAPTO-1,3,4-THIADIAZOLE DERIVATIVE	No data available	No data available	

Engineering Controls: Showers
Eyewash stations

Respiratory Protection: Use in a well-ventilated area. Use NIOSH Approved Respirator when risk assessment shows air – purifying respirators are appropriate. Use multipurpose combination respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Protective Gloves: Chemical Resistant

Eye Protection: Safety Glasses with Side Shields or Goggles

Other Protective Equipment: Avoid Contact with Skin or Eyes.

Ventilation: Local Exhaust: Use to Maintain Below TWA Limits

Mechanical: Use Non-Sparking Equipment

Work / Hygienic Practices: Wash thoroughly after handling product and before eating, drinking, or smoking

Section 9 – Physical and Chemical Properties

Form:	Semi-fluid
Color:	Dark Grey
Odor:	Not established
Odor Threshold:	Not Established
pH:	Not Established
Melting point/range:	>260°C (500°F)
Initial boiling point:	Not Established
Flash point:	>287.7°C (550°F) [EST. FOR OIL, ASTM D-92 (COC)]
Evaporation Rate:	Not Established
Upper/lower flammability or explosive limits:	Not Established
Vapor pressure	< 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Vapor density	Not Established
Relative density	0.89 (at 15 °C) [Estimated]
Solubility(ies)	Water: Negligible
Partition coefficient: n-octanol/water	> 3.5 [Estimated]
Auto-ignition temperature	Not Established
Decomposition temperature	Not Established
Viscosity	> 220 cSt (220 mm2/sec) at 40 °C | 18.5 cSt (18.5 mm2/sec) at 100°C
DMSO Extract (mineral oil only), IP-346	< 3 %wt

Section 10 – Stability and Reactivity

Stability: STABLE

Materials to avoid: Hydrogen Peroxide, Strong oxidizing agents

Hazardous Polymerization: Will not occur.

Conditions to avoid: Excessive heat. High energy sources of ignition.

Hazardous Decomposition Products: Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon and other oxides, Hydrogen fluoride

Section 11 – Toxicological Information

Acute Toxicity

Trade Secret	Oral LD50	LD50 Oral - rat - 4,250 mg/kg Remarks: Behavioral: Somnolence (general depressed activity). Behavioral: Ataxia. Respiratory disorder LD50 Oral - rat - 4,417 mg/kg LDLO Oral - guinea pig - > 5,000 mg/kg
	Inhalation LC50	no data available
	Dermal LD50	no data available
Molybdenum Disulfide	Oral LD50	no data available
	Inhalation LC50	LC50 Inhalation - rat - 4 h - > 2,820 mg/m3 Remarks: Lungs, Thorax, or Respiration: Other changes.
	Dermal LD50	no data available
BENZENAMINE, N-PHENYL-, REACTION PRODUCTS WITH 2,4,4-TRIMETHYLPENTENE	Oral LD50	no data available
	Inhalation LC50	no data available
	Dermal LD50	no data available
ZINC DITHIOPHOSPHATE	Oral LD50	no data available
	Inhalation LC50	no data available
	Dermal LD50	no data available
2,5-DIMERCAPTO-1,3,4-THIADIAZOLE DERIVATIVE	Oral LD50	(LD50): >5000 mg/kg [Rat]
	Inhalation LC50	(LC50): 3.09 mg/l [Rat]
	Dermal LD50	(LD50): >2000 mg/kg [Rabbit]

Skin Corrosion/Irritation

Negligible irritation to skin at ambient temperatures. Based on assessment of the components.

Serious Eye Damage/Eye Irritation

May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

Respiratory or Skin Sensitization

Contains a substance that may cause skin sensitization. Based on assessment of the components.

Germ Cell Mutagenicity

No data available

Carcinogenicity

IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Trade Secret)
ACGIH:	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.
OSHA:	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

This product contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Reproductive Toxicity
No data available

Specific Target Organ Toxicity Single Exposure
No data available

Specific Target Organ Toxicity Repeated or Prolonged Exposure
No data available

Aspiration Hazard
No data available

Potential Health Effects

Inhalation:	Toxic if inhaled. Causes respiratory tract irritation.
Ingestion:	May be harmful if swallowed.
Skin:	May cause an allergic skin reaction
Eyes:	Causes serious eye irritation.

Other Information:

Contains: Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Section 12 – Ecological Information
The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY: Material -- Not expected to be harmful to aquatic organisms.

MOBILITY: Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation: Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL: Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Section 13 – Disposal Considerations

Waste Disposal Method:

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging:

Dispose of as unused product.

Section 14 – Transportation Information

Hazardous for Shipping: Not Regulated

Section 15 – Regulations

TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710:

All hazardous ingredients are on the TSCA Chemical Substance Inventory.

Component	CAS Number	SARA 311 / 312	SARA 313	Mass RTK	IL RTK	RI RTK	Penn RTK	New Jersey RTK	California Prop 65 list
Trade Secret	Trade Secret	Yes	No	No			Yes	Yes	No
Molybdenum Disulfide	1317-33-5	No	No	Yes			Yes	Yes	No
ZINC DITHIOPHOSPHATE	68649-42-3	No	Yes		Yes	Yes	No	Yes	No
ETHYL BENZENE	100-41-4	no	No		No	No	No	No	Yes
HEXANOIC ACID, 2-ETHYL-, ZINC SALT	136-53-8	no	No		No	No	No	No	No
HYDRO TREATED HEAVY NAPHTHENIC DISTILLATE	64742-52-5	no	No		Yes	No	Yes	Yes	No
NAPHTHENIC ACIDS, ZINC SALTS	12001-85-3	no	No		No	No	No	No	No
TOLUENE	108-88-3	no	No		No	No	No	No	Yes
XYLENES	1330-20-7	no	No		No	No	No	No	No

SARA 311 / 312 Hazards: Acute Health Hazard

Section 16 – Other Information

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