



Safety Data Sheet

Prepared according to Globally Harmonized System (GHS) & 29 CFR 1910.1200.
United States.

SECTION 1: IDENTIFICATION

Product Name: Star Lube™
Intended Use(s): Automatic transmission assembly and spray lubricant
SDS No.: MP-014.TS
Revision Date: April 30, 2015
Manufacturer: Muscle Products Corp.
752 Kilgore Road
Jackson Center, PA 16133 U.S.A.
www.mpclubricants.com
Company Phone: 1-800-227-7049 U.S. & Canada
1-814-786-0166 International
Emergency Telephone (24 hr): INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

SECTION 2: HAZARDS IDENTIFICATION

Classification Acute toxicity, dermal - Category 5 (GHS classification only; not classed according to OSHA)
Skin sensitization - Category 1B

Label Elements

Symbols:



Signal Word: Warning
Hazard Statement(s): May be harmful in contact with skin.
May cause an allergic skin reaction.
Other Hazards (HNOC): Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis.
Repeated exposure at high levels may produce liver or kidney damage.
Precautionary Statement(s): Avoid breathing fume / mist / vapors / spray. Wear protective gloves (chemical resistant, i.e. nitrile). Contaminated work clothing must not be allowed out of the workplace.
Seek medical attention if exposed and you feel unwell.
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention.
Disposal: Dispose of product and / or container to a licensed waste disposal contractor in accordance with local, regional, national and international regulations.

HMIS III ratings (U.S.)

Health: 2 * Flammability: 1 Physical hazards: 0 Personal protection: None assigned - PPE codes should be determined by the employer, who is familiar with the actual conditions under which the material is used. See Section 8 for more information.

See Section 11 for complete health hazard information

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS No	% by Weight*
Severely hydrotreated mineral oils consisting of one or more of the following:		
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	75 - 89.9 %
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6	

Petroleum hydrocarbon mixture	Confidential*	10 - 19.9 %
Antimony dialkyldithiocarbamate	15890-25-2	< 2.5 %
Calcium sulfonate	61789-86-4	< 2.5 %
Zinc alkyldithiophosphate	Confidential*	< 1.5 %
Zinc oxide	1314-13-2	< 1.5 %

* If Chemical Name/CAS No is "proprietary" or "confidential" and/or % by Weight is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

Inhalation:

Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms occur.

Skin contact:

Wash with plenty of soap and water. Immediately remove contaminated clothing. Call a poison center or doctor if you feel unwell. If skin irritation or rash occurs: Get medical attention. Launder contaminated clothing before reuse. Discard leather articles saturated with material.

Eye Contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes or until chemical is removed. If eye irritation persists: Get medical attention.

Ingestion:

Rinse mouth thoroughly with water. DO NOT induce vomiting. Call a poison center or doctor if you feel unwell. If vomiting occurs: get immediate medical attention.

Most important symptoms / effects (acute and delayed):

When heated or misted, inhalation of vapor or mists may cause irritation of mucous membranes and respiratory tract. Skin contact may cause an allergic reaction. Repeated, frequent or prolonged skin contact may cause defatting of the skin which can lead to irritation and / or dermatitis. Symptoms may include redness, edema, drying and cracking of skin. Eye contact may cause slight burning, tearing, redness or blurred vision. Swallowing may cause irritation of gastrointestinal lining, abdominal irritation, diarrhea, nausea and vomiting.

Indication of immediate medical attention or special treatment, if necessary:

If exposed or concerned: Get medical attention.
ADVICE TO PHYSICIANS: Treat symptomatically and supportively.

Additional advice / information:

None known.

See Section 11 for complete health hazard information.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Carbon dioxide, foam, dry chemical. Water can be used to cool containers exposed to fire.
DO NOT use direct water jet or high-pressure stream.

Hazardous combustion products:

Smoke, irritating fumes and vapors, unidentified organic compounds, hydrogen chloride, aldehydes, oxides of carbon, calcium, phosphorus, sulfur and zinc and other toxic fumes.

Protection for firefighters:

As in any fire, wear self-contained breathing apparatus operated in positive pressure mode and full protective gear. Water or foam may cause frothing. Avoid water stream on molten burning material as it may scatter and spread fire.

Additional advice / information:

Take no action involving personal risk or without suitable training. DO NOT release chemically contaminated water into drains, soil or surface water.

NFPA hazard identification (U.S.):

Health: 2 Flammability: 1 Instability: 0 Special hazards: ---

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Evacuate personnel to safe area. Keep unnecessary personnel away. Stop leak if possible without risk. Eliminate all ignition sources if possible without risk. Avoid inhalation of vapors. Avoid contact with skin, eyes and clothing - do not

touch or walk through spilled material. Spillages may be slippery. Wear protective clothing / equipment (see Section 8). Ventilate area if spilled in a confined space or other poorly ventilated area.

Environmental precautions:

Prevent from entering soil, ditches, sewers, waterways and groundwater. Do not flush into surface water, sanitary sewer or ground water system.

Methods and materials for containment and clean-up:

Contain spilled material. Absorb spill with a noncombustible material (i.e. vermiculite, sand or earth). Sweep, scoop, or vacuum the discharged material / spent absorbent. Seal absorbent material in a labeled container for later disposal.

LARGE SPILLS: Stop material flow if possible without risk. Dike area far ahead of spill to prevent spreading. Pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, or other absorbent material and shoveled into containers. Do NOT use combustible materials, such as saw dust. Seal and label containers for later disposal.

Additional advice / information:

None.

See Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with eyes, skin, clothing and shoes. Avoid repeated or prolonged skin contact. Wear protective gloves and any other PPE deemed suitable (see Section 8). Avoid breathing fume, mist, vapors or spray. Use adequate ventilation and / or engineering controls (see Section 8). Keep away from ignition sources. When handling, DO NOT eat, drink or smoke. DO NOT ingest product. Wash face, hands and any exposed skin thoroughly with soap and water after handling. Contaminated work clothing should not be allowed out of the workplace. Launder contaminated clothing before reuse. Keep containers closed and upright when not in use. DO NOT reuse empty containers without cleaning or reconditioning. Empty container contains product residue which may exhibit hazards of the product. Avoid water contamination, incompatible conditions (see Section 10) and extreme temperatures to prevent product degradation.

Conditions for safe storage, including incompatibilities:

Keep in original container and tightly closed and sealed until ready for use. Store protected from sunlight in a cool, dry and well-ventilated place. Keep away from incompatible materials (see Section 10) and sources of ignition. Take precautions to avoid release to the environment. DO NOT store in unlabeled or mislabeled containers. Maximum storage temperature for product preservation: 40°C (104°F). Storage life: 2 years if stored according to advice given.

Additional advice / information:

Empty containers contain material residue. DO NOT cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits:

Ingredient name	OSHA PEL	ACGIH TLV	Other
Oil mist, Mineral (if generated)	TWA: 5 mg/m3	TWA: 5 mg/m3 STEL: 10 mg/m3	NIOSH - TLV: 5 mg/m3 (TWA) STEL: 10 mg/m3
Antimony dialmyldithiocarbamate	TWA: 0.5 mg/m3	TWA: 0.5 mg/m3	---
Zinc oxide, as fume	Not determined	Not determined	TWA: 5 mg/m3 STEL: 10 mg/m3

(s) = skin (c) = ceiling exposure

Engineering controls:

General ventilation is normally adequate. If use generates mist or vapor, local exhaust ventilation is recommended. Additional ventilation or exhaust may be required to maintain air concentrations below exposure limits. Thermal processing operations should be ventilated to prevent exposure to vapors.

Personal protective equipment

Eye / face protection:

Wear safety glasses. If potential for splash or mist exists, wear chemical splash goggles or face shield. Wear goggles, face shield or other full-face protection during thermal processing if contact with HOT material is possible.

Skin / body protection:

Use nitrile or neoprene gloves. Long-sleeve shirt recommended. Wear apron or coverall if there is a risk of exposure to splashes. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. If handling HOT product, ensure gloves, boots and clothing are heat resistant and insulated.

Respiratory protection:

Not usually required under normal conditions of use. If airborne concentrations are above exposure limits, use an approved respirator. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material.

Work and hygiene practices:

Safety showers and eye wash stations should be provided close to work areas with splash hazards. Launder contaminated clothing and shoes before reuse. Follow general hygiene considerations recognized as common good work practices. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when handling product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Milky amber liquid.
Odor:	Hydrocarbon, petroleum.
Odor threshold:	Not determined.
pH:	Not determined.
Melting / freezing point:	POUR POINT: - 32.8°F (-36.0°C) ASTM D97
Initial boiling point / range:	399.0°F (203.9°C) ASTM D1120
Flash point:	295.0°F (141.6°C) ASTM D93
Evaporation rate:	Not determined.
Flammability / Explosive Limits:	
Upper: Not determined.	Lower: Not determined.
Vapor pressure:	Not determined.
Vapor density:	Not determined.
Specific gravity:	0.9328 g/cm ³ @ 60°F ASTM D1298
Relative density:	~ 7.785 lbs per U.S. gallon
Solubility(ies):	Insoluble (water).
Partition coefficient: n-Octanol/water	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	Typical 23 - 26 cSt @ 40°C

The above properties are typical values and do NOT constitute a product specification.

SECTION 10: STABILITY AND REACTIVITY**Stability:**

Stable under normal handling and storage conditions (see Section 7).

Possibility of hazardous reactions:

None known under normal conditions of use.

As with all petroleum chemicals, product tends to soften or swell most natural rubbers. Can react with iron, zinc and aluminum at high temperatures leading to product decomposition.

Conditions to avoid:

Direct sunlight, high temperatures, excessive heat and sources of ignition. Strong oxidizing conditions. Contact with strong caustic agents.

Incompatible materials:

Strong oxidizing agents. Reducing agents. Acids.

Hazardous decomposition products:

Smoke, irritating vapors, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released. Under combustion conditions, oxides of phosphorus, sulfur, calcium and zinc may form. Prolonged heating at temperatures in excess of 70°C (158°F), OR heating above 200°C (392°F) for short periods of time, will result in product decomposition and possible liberation of hydrogen chloride.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Likely routes of exposure: Skin contact, eye contact, inhalation - in the work place.

Acute exposure

Oral toxicity:	No data on product. Calculated ATE: LD50 > 5000 mg/kg, rat, based on component data. Swallowing may cause irritation of gastrointestinal lining, abdominal irritation, diarrhea, nausea and vomiting.
Dermal toxicity:	No data on product. Calculated ATE: LD50 > 2000 mg/kg, rabbit, based on component data.
Inhalation toxicity:	No data available to indicate product or components may be a toxic inhalation hazard. When heated, sprayed or misted, inhalation of vapor or mists may cause irritation of mucous membranes and respiratory tract. Based on component data.
Skin corrosion / irritation:	Unlikely to cause skin irritation. Based on component data.
Eye damage / irritation:	May cause slight eye irritation. Vapors formed from heating may cause eye irritation. Based on component data. Symptoms may include tearing, redness or blurred vision.
Sensitization – skin / respiratory:	May cause skin sensitization. Not expected to be a respiratory sensitizer. Based on component data.

Chronic exposure

Germ cell mutagenicity:	No data available to indicate product or its components present at 0.1% or greater are mutagenic.
Carcinogenicity:	Severely hydrotreated naphthenic petroleum oils have not been found to be carcinogenic or potential carcinogens. The oils in this product contain < 3.0% DMSO extractable compounds by IP 346.
Reproductive toxicity:	No data available to indicate product or its components present at 0.1% or greater cause reproductive toxicity.

Specific target organ toxicity (STOT)

Single exposure:	None known.
Repeated / prolonged exposure:	Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying and cracking of skin. Repeated exposure to high levels may produce liver or kidney damage.

Not classed.

Aspiration hazard

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

Fish:

- Severely hydrotreated mineral oils: 96 Hr LC50 > 30,000 mg/L (static) Pimephales Promelas.
- Petroleum hydrocarbon mixture: 96 Hr LC50 > 300 mg/L Rainbow Trout.
- Calcium sulfonate: LC50 > 100 mg/L, 4 d, Rainbow Trout. NOEC > 100 mg/L, 4 d, Rainbow Trout. LC50 > 10,000 mg/L, 4 d, Sheepshead Minnow.
- Zinc alkyldithiophosphate: LC50 4.4 mg/L, 4 d, Rainbow Trout. NOEC 3.2 mg/L, 4 d, Rainbow Trout
- Zinc oxide: LC50 2.5 mg/L, 4 d, Rainbow Trout.

Aquatic Invertebrates:

- Severely hydrotreated mineral oils: 48 Hr EL50 > 1000 mg/L, Daphnia magna.
- Antimony dialkyldithiocarbamate: EC50 0.063 mg/kg (daphnia)
- Calcium sulfonate: EC50 > 1,000 mg/L, 2 d, Daphnia magna (water flea).
- Zinc alkyldithiophosphate: EC50 75 mg/L, 2 d, Daphnia magna (water flea). NOEC 32 mg/L, 2 d, Daphnia magna (water flea). EC50 > 0.8 mg/L, 21 d, Daphnia magna (water flea). NOEC 0.4 mg/L, 21 d, Daphnia magna (water flea).

Aquatic Plants:

- Severely hydrotreated mineral oils: 96 Hr Ir L50 > 1000 mg/L Scenedesmus Subspicatus.
- Calcium sulfonate: EC50 > 100 mg/L, 3d, Selenastrum capricomutum (green algae).
- Zinc alkyldithiophosphate: EC50 410 mg/L, 3 d, Scenedesmus quadricauda (green algae). NOEC 220 mg/L, 3d, Scenedesmus quadricauda (green algae).
- Zinc oxide: EC50 > 0.042 mg/L, 3 d, Pseudokirchneriella subcapitata (green algae).

Microorganisms:

Calcium sulfonate: EC50 > 10,000 mg/L, 0.1 d, Sludge

Zinc alkyldithiophosphate: EC50 380 mg/L, 0.1 d, Pseudomonas putida

Other:

None.

Persistence / degradability:

No data on product. Not readily biodegradable based on component data.

Bioaccumulative potential:

No data on product. More than 50% of components are expected to have a high potential to bioaccumulate.

Mobility:

No data on product. Essentially insoluble to water based on component data.

Ozone depletion:

No known ingredients present at 0.1% or greater are identified as ozone-depleting substances.

Other adverse effects:

None known.

SECTION 13: DISPOSAL CONSIDERATIONS**Disposal:**

Avoid release to the environment. DO NOT dispose of to any sewer, ground or body of water. Dispose to a licensed waste disposal contractor in accordance with local, regional, national or international regulations.

Empty containers:

Empty containers may contain harmful residue or vapors. Labels should not be removed from containers until they have been cleaned. Dispose of or recycle packaging in accordance with local, regional, national or international regulations.

Additional advice / information:

It is the responsibility of the user to determine, at the time of disposal, whether product meets the RCRA criteria for hazardous waste.

SECTION 14: TRANSPORT INFORMATION**U.S. Dept. of Transportation (DOT):**

	Non-Bulk	Bulk *
UN Number	Not regulated.	Not regulated.
Proper Shipping Name	Lubricant oil	Lubricant oil
Hazard Class	Not applicable.	Not applicable.
Packing Group	Not applicable.	Not applicable.
Special provisions	Not applicable.	Not applicable.
Packaging exceptions	Not applicable.	Not applicable.
NAERG number	171	171
Placard advisory	Not applicable.	Not applicable.
Label(s) required	Not applicable.	Not applicable.
Quantity Limitations:		
Passenger aircraft/rail	Not applicable.	Not applicable.
Cargo aircraft only	Not applicable.	Not applicable.

UN Model Regulations (annexes to the Recommendations on the Transport of Dangerous Goods):

Not determined.

IMDG Code:

Product does not meet the criteria for marine pollutant classification. See U.S. DOT.

IBC Code / Annex II of MARPOL 73/78:

Not determined.

Additional advice / information: * Review classification requirements before shipping material at elevated temperatures.**SECTION 15: REGULATORY INFORMATION****U.S. Federal Regulations:**

TSCA: All components are on the inventory or exempt from listing.

SARA Title III:

Sections 311/312 Hazard Classes:

Acute health hazard:	Yes
Chronic health hazard:	No
Fire hazard:	Yes
Reactive hazard:	No
Release of pressure hazard:	No

Section 313 Form R reporting:

This product does not contain greater than 1.0% of any chemical substances (0.1% for carcinogens) listed by Section 313 of SARA Title III and 40 CFR 372.

Section 302 Extremely Hazardous Substances (EHS) / CERCLA Hazardous Substances:

SARA EHS: This product does not contain greater than 1.0% of any chemical substances (0.1% for carcinogens) on the list of SARA Extremely Hazardous Substances.

CERCLA: Antimony compounds, < 1.5% bw concentration. No RQ assigned to this generic or broad class. Zinc compounds, < 1.5% bw concentration. No RQ assigned to this generic or broad class.

U.S. State Regulations:

California: Product does not intentionally contain any Proposition 65 chemicals. Additionally, we do not routinely analyze products for impurities, which may be such chemicals.

New Jersey RTK: CASRN 64742-52-5 Hydrotreated heavy naphthenic distillates (petroleum), listed. CASRN 64742-53-6 Distillates (petroleum), hydrotreated light naphthenic, listed.

Pennsylvania RTK: CASRN 64742-52-5 Hydrotreated heavy naphthenic distillates (petroleum), listed. CASRN 64742-53-6 Distillates (petroleum), hydrotreated light naphthenic, listed.

International Inventories:

Components of this product are compliant with, or listed on, one or more of the following: 2) Australia (AICS), Canada (DSL/NDSL), China (IECSC), EU (REACH), Japan (ENCS), Korea (ECL), New Zealand (NZIoC), Philippines (PICCS), Taiwan (TCSCA).

EU: To obtain REACH compliance status, please email us at sales@mpclubricants.com.

Other regulatory information: None.

SECTION 16: OTHER INFORMATION

SDS History

Issue date:	April 27, 1998
Revision date:	April 30, 2015
Revision number:	04
Revision indicator:	This SDS has been revised as follows: Prepared for compliance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) and the revised 29 CFR 1910.1200 (U.S. Hazard Communication Standard).
Prepared by:	Technical Dept.

Acronym Legend:

ACGIH	American Conference of Governmental Industrial Hygienists	LOAEL	Lowest Observed Adverse Effect Level
BCF	Bioconcentration Factor	NFPA	National Fire Protection Association
CAS	Chemical Abstracts Service	NIOSH	National Institute for Occupational Safety & Health
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (Superfund)	NOAEL	No Observed Adverse Effect Level
EC₅₀	Effective concentration to 50% of test organisms	NTP	National Toxicology Program
EPCRA	Emergency Planning and Community Right-to-Know	OSHA	Occupational Health and Safety Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals	PEL	Permissible Exposure Limit
HMIS	Hazardous Material Information System	RQ	Reportable Quantity
IARC	International Agency for Research on Cancer	SARA	U.S. EPA Superfund Amendments and Reauthorization Act
IBC	Intermediate Bulk Container	STEL	Short-Term Exposure Limit
IMDG	International Maritime Dangerous Goods Code	TLV	Threshold Limit Value
LC₅₀	Lethal concentration to 50% of test organisms	TPQ	Threshold Planning Quantity
LD₅₀	Lethal dose to 50% of test organisms	TWA	Time-Weighted Average
		VOC	Volatile Organic Compound

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- END SAFETY DATA SHEET -