



SAFETY DATA SHEET

Product: MARC 173 TFE LUBE

Form R04132

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER AND NAME: **MARC 173 TFE LUBE**

SDS DATE: 01/09/2019

SUPPLIER: Mid-American Research Chemical Corp.

ADDRESS: P. O. Box 927 Columbus, NE 68602-0927

PHONE: 402-564-7104 FAX: 403-563-1290

EMERGENCY PHONE: InfoTrac 1-800-535-5053

E-MAIL: marc@marc1.com WEBSITE: www.marc1.com

RECOMMENDED USE: Dry PTFE lube.

PREPARED BY: MARC

SECTION 2: HAZARDS IDENTIFICATION

CLASSIFICATION: Aspiration Hazard - Category 1. Skin Irritation - Category 2. Eye Irritation - Category 2. Aerosol - Category 1. Chronic aquatic toxicity - Category 1. Acute aquatic toxicity - Category 1 **SIGNAL WORD AND PRECAUTIONARY STATEMENTS- DANGER:**

Hazardous Statements - Physical: H222, H229 - Extremely flammable aerosol, Pressurized container may burst if heated. **Hazardous Statements - Health:** H304 - May be fatal if swallowed and enters airways. H315 - Causes skin irritation. H319 - Causes serious eye irritation. **Hazardous Statements - Environmental:** H410 - Very toxic to aquatic life with long lasting effects. **Precautionary Statements - General:** P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P103 - Read label before use. **Precautionary Statements - Prevention:** P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P211 - Do not spray on an open flame or other ignition source. P251 - Do not pierce or burn, even after use. P264 - Wash thoroughly after handling. **Precautionary Statements - Response:** P370 + P378 - In case of fire: Use water fog, dry chemical or carbon dioxide to extinguish. P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331 - Do NOT induce vomiting. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P332 + P313 - If skin irritation occurs: Get medical advice/attention. P362 + P364 - Take off contaminated clothing and wash it before reuse. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice/attention. **Precautionary Statements - Storage:** P235 - Keep cool. P403 - Store in a well-ventilated place. P405 - Store locked up. P410 - Protect from sunlight. P412 - Do not expose to temperatures exceeding 50°C/122°F. **Precautionary Statements - Disposal:** P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	% By Wt.
N-Heptane	142-82-5	48% - 85%
Butane	106-97-8	4% - 9%
Propane	74-98-6	8% - 17%
Isobutane	75-28-5	2% - 5%

Specific chemical identity and/or percentage of composition has been withheld as a trade secret

SECTION 4: FIRST AID MEASURES

EYES: Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice/attention.

SKIN: Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. Call a POISON CENTER/doctor if you feel unwell. Store contaminated clothing under water and wash before reuse or discard.

INGESTION: Rinse mouth. **DO NOT INDUCE VOMITING!** Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position. Never give anything by mouth to an unconscious or convulsing victim. Keep person warm and quiet.



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INHALATION: Remove source of exposure or move person to fresh air and keep at rest in a position comfortable for breathing. If exposed/feel unwell/concerned, call a POISON CENTER or doctor/physician.

SECTION 5: FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Use water, fog, dry chemical, or carbon dioxide. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

UNSUITABLE EXTINGUISHING MEDIA: Water may be ineffective but can be used to cool containers exposed to heat or flame.

**FIRE-FIGHTING PROCEDURES/
EQUIPMENT:** Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Care should always be exercised in dust/mist areas. Firefighters should wear positive pressure, full-face piece self-contained breathing apparatus (SCBA), and full turnout gear.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Aerosol cans may rupture when heated. Heated cans may burst.

HAZARDOUS DECOMPOSITION PRODUCTS: In fire, will decompose to carbon dioxide, carbon monoxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES: Flammable/combustible material. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stay upwind; keep out of low areas. Immediately turn off or isolate any source of ignition. Keep unnecessary people away. Isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP: Use absorbent sweeping compound to soak up material and put into suitable container for proper disposal.

PERSONAL PRECAUTIONS: Use explosion proof equipment. Avoid breathing vapor. Avoid contact with skin, eye or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Wear positive pressure, full-face piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SDBA (NIOSH) approved. (See Section 8 Exposure Controls, Personal Protection.)

ENVIRONMENTAL PRECAUTIONS: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR
SAFE HANDLING:** Obtain special instructions before use. Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Eating, drinking and smoking in work areas is prohibited. Use good personal hygiene practices. Eyewash stations and showers should be available in areas where this material is used and stored.

OTHER PRECAUTIONS: **KEEP OUT OF REACH OF CHILDREN! FOR INDUSTRIAL AND INSTITUTIONAL USE ONLY!
FOR USE BY TRAINED PERSONNEL ONLY!**

STORAGE: Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and incompatibilities and at temperatures below 120° F. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty containers retain residue and may be dangerous.



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

APPROPRIATE ENGINEERING CONTROLS/

VENTILATION:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

RESPIRATORY PROTECTION:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapors. When spraying more than one half can continuously or more than one can consecutively, use NIOSH approved respirator.

EYE/FACE PROTECTION:

Chemical goggles, safety glasses with side shields or vented/splash proof goggles. Contact lenses may absorb irritants. Particles may adhere to lenses and cause corneal damage.

SKIN PROTECTION/PROTECTIVE GLOVES:

Wear gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Wear long sleeved shirt, long pants and other protective clothing as required to minimize skin contact. Chemical-resistant clothing is recommended to avoid prolonged contact.

Eyewash stations and showers should be available in areas where this material is used and stored.

WORK HYGIENIC PRACTICES:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

CHEMICAL NAME	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA Tables-(Z1,2,3)	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
BUTANE								800	1900			
ISOBUTANE								800	1900			
N-HEPTANE	500	2000			1			85	350			
PROPANE	1000	1800			1			1000	1800			

CHEMICAL NAME	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
BUTANE	1000			
ISOBUTANE	1000			
N-HEPTANE	400	1640	500	2050

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:

Liquid in aerosol can.

PHYSICAL STATE:

Liquid.

COLOR:

Whitish.

ODOR:

Solvent.

ODOR THRESHOLD:

N.A.

pH:

N.A.

MELTING/FREEZING POINT:

N.A.

LOW BOILING POINT:

0°F

HIGH BOILING POINT:

212°F

FLASH POINT/METHOD USED:

N.A.

EVAPORATION RATE:

Slower than ether.

FLAMMABILITY (solid, gas):

Flashpoint below 73°F.

FLAMMABILITY EXPLOSIVE (%):

LOWER: 1.8

UPPER: 9.5

VAPOR PRESSURE (mmHg):

N.A.

VAPOR DENSITY (AIR = 1):

Slower than ether.

DENSITY:

43.95713 lb/gal

DENSITY VOC:

43.69834 lb/gal



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%VOC: 99.41125%
VOC ACTUAL: 43.69834 lb/gal
VOC ACTUAL: 5,236.37170 g/l
VOC REGULATORY: 43.69834 lb/gal
VOC REGULATORY: 5,236.37170g g/l
SPECIFIC GRAVITY (H₂O = 1): N.A.
SOLUBILITY IN WATER: Nil
**PARTITION COEFFICIENT,
n-OCTANOL/WATER:** N.A.
AUTO-IGNITION TEMPERATURE: N.A.
DECOMPOSITION TEMPERATURE: 0
VISCOSITY: N.A.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Stable.

CHEMICAL STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: High temperatures.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: In fire, will decompose to carbon dioxide, carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur. **CONDITIONS TO AVOID (POLYMERIZATION):** NA

SECTION 11: TOXICOLOGICAL INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE:

SERIOUS EYE DAMAGE/IRRITATION: Causes serious eye irritation. Over exposure will cause redness and burning sensation.

SKIN CORROSION/IRRITATION: Overexposure will cause defatting of skin. Causes skin irritation.

INGESTION/ASPIRATION HAZARD: May be fatal if swallowed and enters airways.

INHALATION: Effects of overexposure include irritation of respiratory tract, headache, dizziness, nausea, and loss of coordination. Extreme overexposure may result in unconsciousness and possibly death.

CARCINOGENICITY: No data available.

GERM CELL MUTAGENICITY: No data available.

REPRODUCTIVE TOXICITY: No data available.

RESPIRATORY/SKIN SENSITIZATION: No data available.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: No data available.

SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE: No data available.

ASPIRATION HAZARD: May be fatal if swallowed and enters airways.

ACUTE TOXICITY: Inhalation: effect of overexposure include irritation of respiratory tract, headache, dizziness, nausea, and loss of coordination. Extreme overexposure may result in unconsciousness and possibly death.

N-HEPTANE (CAS 142-82-5)

LC50 (rat): approximately 25000 ppm (4-hour exposure); cited as 103 g/m³ (4-hour exposure) (6)

LD50 (oral, rat): Greater than 15000 mg/kg (4)

ISOBUTANE (CAS 75-28-5)

LC50 (mouse, inhalation): 520,000 ppm (52%); 2-hour exposure (4)



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BUTANE (CAS106-97-8)

LC50 (mouse); 202000 ppm (481000 mg/m3) (4-hour exposure); cited as 680 mg/L (2-hour exposure) (9)

LC50 (rat): 276000 ppm (658000 mg/m3) (4-hour exposure); cited as 658 mg/L (4-hour exposure) (9)

POTENTIAL HEALTH EFFECTS – MISCELLANEOUS

N-HEPTANE (CAS 142-82-5)

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, respiratory system, skin. May cause central nervous system effects such as dizziness, headache, nausea, and loss of consciousness. Laboratory studies with rats have shown that petroleum distillates can cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	Very toxic to aquatic life with long lasting effects.
Persistence and degradability:	No data is available.
Bioaccumulative potential:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (for ground/non-bulk containers)

CONTAINER SIZES(S):	Aerosol Can (11 oz.)
PROPER SHIPPING NAME:	LUBRICATING OIL, GREASE OR PETROLEUM
HAZARD CLASS:	N/A
ID NUMBER:	None
PACKING GROUP:	None
LABEL STATEMENT:	LTD QTY

SECTION 15: REGULATORY INFORMATION

CAS	CHEMICAL NAME	% BY WEIGHT	REGULATION LIST
74-98-6	PROPANE	8% - 17%	SARA 312, VOC, TSCA, ACGIH, OSHA
75-28-5	ISOBUTANE	2% - 5%	SARA 312, VOC, TSCA, ACGIH
106-97-8	BUTANE	4% - 9%	SARA 312, VOC, TSCA, ACGIH
142-82-5	N-HEPTANE	48% - 85%	SARA 312, VOC, TSCA, ACGIH, OSHA

SECTION 16: OTHER INFORMATION

HMIS/NFPA Ratings: Health = 1, Flammability = 4, Reactivity = 0, Other = -, Protection = B.

REVISION DATE: 01/09/2019

N/A = Not Applicable, N/D = Not Determined, N/E = Not Established

DISCLAIMER: While the information contained herein is believed to be correct, no warranties are made with respect thereto, and all liability from reliance thereon is disclaimed.