MID AMERICA MOTORWORKS™

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MATERIAL SAFETY DATA SHEET • 118-096 • 40 Below Water Temp Additive

1. PRODUCT IDENTIFICATION

1.1	Product Name:	**FORTY BELOW**
1.2	Chemical Name:	See ingredients listed in section 3
1.3	Synonyms:	None reported by the manufacturer
1.4	Trade Names:	Forty Below
1.5	Product Use:	Fuel Additive
1.6	Manufacturer's Name:	National Lubricants, Inc.
1.7	Manufacturer's Address:	830 Manly Street, Winston-Salem, NC 27101
1.8	Business Phone:	+1 (336) 723-9404
1.9	Emergency Phone:	**CHEMTREC +1 (800) 424-9300/+1 (703) 527-3887**

CHEMICAL RESPONSE CARD:	34
RESPONSE TEAM PPE:	
WHMIS:	
HEALTH:	1
FLAMMABILITY:	2
REACTIVITY:	0
PERSONAL PROTECTION:	B

2. IDENTIFICATION OF RISKS

2.1 Hazard Identification:

This product is not classified as a HAZARDOUS SUBSTANCE but not as DANGEROUS GOODS according to the classification criteria of NOHSC:1088 (1999) and ADG Code (Australia). Combustible liquid.

2.2 Routes of Entry:

Inhalation:	YES	Absorption:	YES	Ingestion:	YES

2.3 Effects of Exposure:

EYES: This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists.

SKIN: This product can cause mild, transient skin irritation with short-term exposure.

INGESTION: If swallowed, no significant adverse health effects are anticipated. Ingestion can cause a laxative effect. If aspirated into the lungs, liquid can cause severe lung damage or death.

INHALATION: No significant adverse health effects are expected to occur upon short-term exposure to this product. Aspiration of liquid into the lungs can cause severe lung damage or death.

2.4 Symptoms of Exposure:

EYES: Irritation, redness, and watering.

SKIN: Possible irritation, defatting, or dermatitis (rash), characterized by dry, scaling, red, itching skin.

INGESTION: Laxative effects. Gastrointestinal discomfort, nausea and headache.

INHALATION: May cause irritation to the upper respiratory system. Overexposure to sprays or mists may cause chemical pneumonitis.

2.5 Acute Health Effects:

EYES: Slightly irritating, but will not injure eye tissue.

SKIN: Low toxicity. Frequent or prolonged contact may irritate the skin.

INGESTION: Low toxicity. Laxative effects. Gastrointestinal discomfort, nausea and headache.

INHALATION: Negligible. At elevated temperatures or through mechanical action, may form vapors, mists or fumes that may be irritating to the eyes, nose, throat and lungs.

2.6 Chronic Health Effects:

Contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.

2.7 Target Organs:

None reported by the manufacturer.

2.8 Toxicological Properties:

None reported by the manufacturer.

3. COMPOSITION & INGREDIENTS

					EXPOSURE LIMITS IN AIR (mg/m³)					
					ACGIH - ppm		OSHA - ppm			OTHER
CHEMICAL NAME(S)	CAS No.	RTECS No.	EINECS No.	%	TLV	STEL	PEL	STEL	IDLH	
PROPRIETARY INGREDIENTS	NA	NA	NA	NA	NA	NA	NA	NA	NA	
LEAD NAPHTHENATE	61790-14-5	QK9150000	263-109-4	NA	(0.15)	NA	(0.15)	NA	NA	

See Section 16 for Additional Definitions of Terms Used.

NOTE: All WHMIS required information is included – it is located in appropriate sections based on the ANSI Z400.1-2004 format.

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4. FIRST AID

4.1 First Aid:

EYES: Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.

SKIN: Remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods. If material is injected under the skin, into muscle, or into the bloodstream, seek medical attention immediately.

INGESTION: Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.

INHALATION: Vaporization is not expected at ambient temperatures. This material is not expected to cause inhalation-related disorders under anticipated conditions of use. In case of overexposure, move the person to fresh air.

4.2 Medical Conditions Aggravated by Exposure:

Personnel with pre-existing skin disorders should avoid repeated or prolonged contact with this product.

HEALTH	**1**
FLAMMABILITY	**2**
REACTIVITY	**0**
PROTECTIVE EQUIPMENT	**B**

EYES	**SKIN**		

5. FIRE & EXPLOSION HAZARDS

5.1 Flashpoint & Method:

> 61 °C (> 140 °F)

5.2 Autoignition Temperature:

NA

5.3 Flammability Limits: Lower Explosive Limit (LEL): **NA** Upper Explosive Limit (UEL): **NA**

5.4 Fire & Explosion Hazards:

This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point. Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, phosphorus, zinc and nitrogen. Also, depending upon the conditions of use, low concentrations of hydrogen sulfide can be released.

5.5 Extinguishing Methods:

Dry chemical, foam, carbon dioxide, and water fog.

5.6 Firefighting Procedures:

Keep containers cool until well after the fire is out. Use water spray to cool fire-exposed surfaces and to protect personal. Avoid spraying water directly into storage containers because of danger of boilover. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

6. SPILLS & LEAKS

6.1 Spills:

Secure spill area, remove or minimize all sources of ignition, and maximize ventilation. Stop spill or leak at source if safely possible. Deny entry to all unprotected individuals. Individuals involved in the cleanup must wear appropriate personal protective equipment. Recover free liquid or cover with inert absorbent material and place into appropriate container(s) for disposal. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers or any natural waterway or drinking supply. Contact appropriate local and/or provincial authorities for assistance and/or reporting requirements. For water spills, remove from surface by skimming or with suitable absorbents. If allowed by federal & provincial environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters. Consult an expert on disposal of recovered material. Ensure disposal on compliance with government requirements & secure conformity to local disposal regulations. Notify the appropriate federal & provincial authorities immediately. Take all additional action necessary to prevent & remedy the adverse effects of the spill.

7. STORAGE & HANDLING

7.1	Work & Hygiene Practices: **Use normal hygiene practices. Avoid breathing vapors. Avoid direct skin contact. Wash hands thoroughly after using this product and before eating, drinking, or smoking.**
7.2	Storage & Handling: **Use and store in a cool, dry, well-ventilated area. Keep away from excessive heat, open flames, sparks, and other possible sources of ignition. Do not store in unmarked containers or storage devices.**
7.3	Special Precautions: **Empty containers may contain product residue. Do not pressurize, cut, heat or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.**

8. EXPOSURE CONTROL & PERSONAL PROTECTION

8.1	Ventilation & Engineering Controls: **The use of mechanical dilution ventilation is recommended to maintain airborne concentrations below the recommended occupational exposure limits, whenever this material is used in a confined space, is heated above normal temperatures (up to 38°C) or is agitated.**
8.2	Respiratory Protection: **Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).**
8.3	Eye Protection: **Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.**
8.4	Hand Protection: **Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.**
8.5	Body Protection: **Avoid prolonged and/or repeated skin contact. Use clean and impervious protective clothing (e.g., neoprene or Tyvek®) if splashing or spraying conditions are present. Protective clothing should include long-sleeves, apron, boots and additional facial protection. Remove oil contaminated clothing. Launder oil contaminated clothing before reusing. Contaminated leather goods should be removed promptly and discarded.**

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	Density:	**NA**
9.2	Boiling Point:	**NA**
9.3	Melting Point:	**NA**
9.4	Evaporation Rate:	**NA**
9.5	Vapor Pressure @ 20°C:	**NA**
9.6	Molecular Weight:	**NA**
9.7	Appearance & Colour:	**Colorless to Light Yellow (Amber) Liquid**
9.8	Odour Threshold:	**Slight Odor**
9.9	Solubility:	**NA**
9.10	pH:	**NA**
9.11	Viscosity:	**NA**
9.12	Coefficient Oil/Water Distribution:	**NA**
9.13	Additional Information:	**NA**

10. STABILITY & REACTIVITY

10.1	Stability:	**Stable under normal conditions.**
10.2	Decomposition Products:	**Fumes, smoke, carbon monoxide, metal oxides, and trace hydrocarbons.**
10.3	Polymerization:	**Will not occur.**
10.4	Conditions to Avoid:	**Open flames, sparks, high heat, and close proximity to incompatible substances.**
10.5	Incompatible Substances:	**Strong oxidizing agents.**

11. TOXICOLOGICAL INFORMATION

11.1	Toxicity Data:	**Based on animal testing from similar materials & products, the acute toxicity of this product is expected to be: Petroleum Oils - LD_{50} (oral, rat) > 10000 mg/kg; LD_{50} (dermal, rabbit) > 32000 mg/kg.**
11.2	Acute Toxicity:	**Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.**
11.3	Chronic Toxicity:	**In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.**
11.4	Suspected Carcinogen:	**No**
11.5	Reproductive Toxicity:	
	Mutagenicity:	**This product is not expected to cause mutagenic effects in humans.**
	Embryotoxicity:	**This product is not expected to cause embryotoxic effects in humans.**
	Teratogenicity:	**This product is not expected to cause teratogenic effects in humans.**
	Reproductive Toxicity:	**This product is not expected to cause reproductive harm in humans.**
11.6	Irritancy of Product:	**NA**
11.7	Biological Exposure Indices:	**NA**
11.8	Medical Recommendations:	**Careful gastric lavage or emesis may be considered to evacuate large quantities of material. Subcutaneous or intramuscular injection requires prompt surgical debridement.**

12. ECOLOGICAL INFORMATION

12.1	Environmental Stability:	**Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.**
12.2	Effect on Plants & Animals:	**An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products.**
12.3	Effect on Aquatic Life:	**Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.**

13. DISPOSAL CONSIDERATIONS

13.1	Waste Disposal:	**Dispose of in accordance with federal & provincial hazardous waste laws.**
13.2	Special Considerations:	**If the material is unsuitable for recycling or reclamation, enclosed-controlled incineration is recommended unless otherwise prohibited by local ordinance.**

14. TRANSPORTATION INFORMATION

The basic description (proper shipping name, hazard class & division, ID Number, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

14.1	49 CFR (GND): **NOT REGULATED**
14.2	IATA (AIR): **NOT REGULATED**
14.3	IMDG (OCN): **NOT REGULATED**
14.4	TDGR (Canadian GND): **NOT REGULATED**
14.5	ADR/RID (EU): **NOT REGULATED**
14.6	MEXICO (SCT): **NOT REGULATED**

15. REGULATORY INFORMATION

15.1	SARA Reporting Requirements: **This product contains lead compounds, substances subject to SARA reporting requirements.**	
15.2	SARA Threshold Planning Quantity: **NA**	
15.3	TSCA Inventory Status: **The components of this product are listed on the TSCA inventory.**	
15.4	CERCLA Reportable Quantity (RQ): **NA**	
15.5	Other Federal Requirements: **NA**	
15.6	Other Canadian Regulations **All chemical substances of this product are listed on the CEPA DSL/NDSL or are exempt from list requirements. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.**	
15.7	State Regulatory Information: **Lead Naphthenate (lead compounds) is listed on the following state lists: Massachusetts Right to Know List of Chemicals; New Jersey Right to Know List 8:59 Appendix A; Pennsylvania Hazardous Substances List 34 323 Appendix A, and Florida Toxic Substances List. Lead Naphthenate (lead compounds) is listed on the California Proposition 65 list (Cancer).**	
15.8	67/548/EEC (European Union) Requirements: **The primary components of this product is listed in Annex I of EU Directive 67/548/EEC:** **Naphtha: Xi, F, N (Irritant. Flammable. Harmful). R: 11-38-51/53-65-67 – Highly flammable. Irritating to skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful-may cause lung damage if swallowed. Vapors may cause drowsiness and dizziness.**	

16. OTHER INFORMATION

16.1	Other Information: **This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the priorities substances list.**	
16.2	Terms & Definitions: **Please see page 6 of this Material Safety Data Sheet.**	
16.3	Disclaimer: This Material Safety Data Sheet complies with Health Canada's Workplace Hazardous Materials Information System (WHMIS) & U.S. OSHA's Hazard Communication Standard, 29 CFR §1910.1200. To the best of ShipMate's or Lane Automotive's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product. Contact the manufacturer for additional information.	
16.4	Prepared for: **Lane Automotive** **8300 Lane Drive** **Watervliet, MI 49098** **Phone: +1 (800) 772-5266** **Fax: +1 (800) 772-2618** **e-mail: info@laneautomotive.com**	
16.5	Prepared by: **Steven Charles Hunt** **ShipMate, Inc.** **18436 Hawthorne Blvd, Suite 201** **Torrance, CA 90504 USA** **Phone: +1 (310) 370-3600** **Fax: +1 (310) 370-5700** **e-mail: shipmate@shipmate.com**	

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

CAS No.	Chemical Abstract Service Number

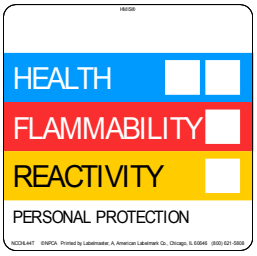
EXPOSURE LIMITS IN AIR:

ACGIH	American Conference on Governmental Industrial Hygienists
TLV	Threshold Limit Value
OSHA	U.S. Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
IDLH	Immediately Dangerous to Life and Health

FIRST AID MEASURES:

CPR	Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

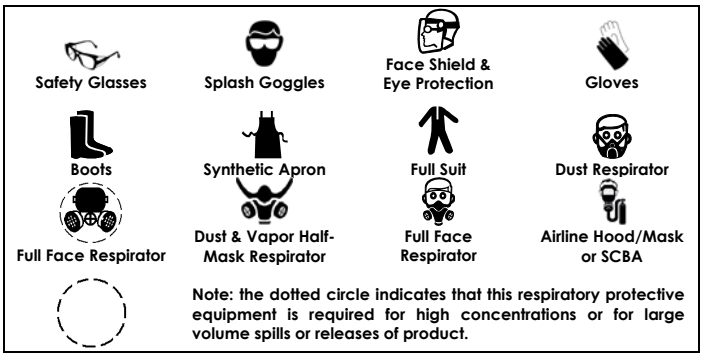


HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard

PERSONAL PROTECTION RATINGS:

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
X	**Consult your supervisor or S.O.P. for special handling directions.**



Note: the dotted circle indicates that this respiratory protective equipment is required for high concentrations or for large volume spills or releases of product.

OTHER STANDARD ABBREVIATIONS:

NA	Not Available
NR	No Results
NE	Not Established
ND	Not Determined
ML	Maximum Limit
SCBA	Self-Contained Breathing Apparatus

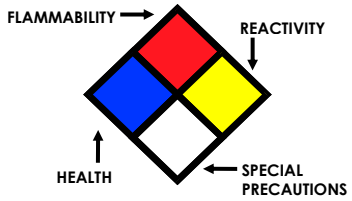
NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

Autoignition Temperature	Minimum temperature required to initiate combustion in air with no other source of ignition
LEL	Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source
UEL	Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source

HAZARD RATINGS:

0	Minimal Hazard
1	Slight Hazard
2	Moderate Hazard
3	Severe Hazard
4	Extreme Hazard
ACD	Acidic
ALK	Alkaline
COR	Corrosive
~~W~~	Use No Water
OX	Oxidizer



TOXICOLOGICAL INFORMATION:

LD_{50}	Lethal Dose (solids & liquids) which kills 50% of the exposed animals s
LC_{50}	Lethal concentration (gases) which kills 50% of the exposed animal
ppm	Concentration expressed in parts of material per million parts
TD_{lo}	Lowest dose to cause a symptom
TCLo	Lowest concentration to cause a symptom
TD_{lo}, LD_{lo}, & LD_o or TC, TC_o, LC_{lo}, & LC_o	Lowest dose (or concentration) to cause lethal or toxic effects
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
RTECS	Registry of Toxic Effects of Chemical Substances
BCF	Bioconcentration Factor
TL_m	Median threshold limit
log K_{ow} or log K_{oc}	Coefficient of Oil/Water Distribution

REGULATORY INFORMATION:

WHMIS	Canadian Workplace Hazardous Material Information System
DOT	U.S. Department of Transportation
TC	Transport Canada
EPA	U.S. Environmental Protection Agency
DSL	Canadian Domestic Substance List
NDSL	Canadian Non-Domestic Substance List
PSL	Canadian Priority Substances List
TSCA	U.S. Toxic Substance Control Act
EU	European Union (European Union Directive 67/548/EEC)

EC INFORMATION:

C	E	F	N	O	T+	Xi	Xn
Corrosive	Explosive	Flammable	Harmful	Oxidizing	Toxic	Irritant	Harmful

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