SAFETY DATA SHEET

1. Identification

Product identifier **Penetrating and Lock Lubricant**

Other means of identification

FIR No. 191938

Recommended use Penetrating and Lock Lubricant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company Name Ford Motor Company

Address Attention: MSDS Information, P.O. Box 1899
Dearborn, Michigan 48121
USA

Telephone 1-800-392-3673

SDS Information 1-800-448-2063 (USA and Canada)
fordsds.com

Emergency telephone numbers

Poison Control Center: USA and Canada: 1-800-959-3673
INFOTRAC (Transportation): USA and Canada 1-800-535-5053

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Dissolved gas
Health hazards	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

Response Get medical advice/attention if you feel unwell.

Storage Protect from sunlight. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	Aspiration may cause pulmonary edema and pneumonitis. May cause irritation of respiratory tract. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May irritate eyes and skin. HARMFUL OR FATAL IF SWALLOWED. May be harmful if absorbed through skin.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), hydrotreated light		64742-47-8	20 - 25
Petroleum gases, liquefied		68476-85-7	19 - 23
PROPAN-2-OL		67-63-0	3 - 7
STODDARD SOLVENT		8052-41-3	1 - 5

Specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. In the unlikely event of swallowing contact a physician or poison control center. Do not induce vomiting.
Most important symptoms/effects, acute and delayed	Headache. Dizziness. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with eyes, skin, and clothing. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Local authorities should be advised if significant spillages cannot be contained. Do not breathe mist or vapor. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Keep out of low areas. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is immiscible with water and will spread on the water surface. Prevent product from entering drains. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

All equipment used when handling the product must be grounded. Avoid contact with eyes, skin, and clothing. Pressurized container: Do not pierce or burn, even after use. Use only in well-ventilated areas. Do not spray on a naked flame or any other incandescent material. Do not re-use empty containers. When using, do not eat, drink or smoke. Avoid prolonged or repeated contact with skin. Avoid release to the environment. Do not breathe mist or vapor. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Avoid prolonged exposure. Wash hands thoroughly after handling. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not smoke while using or until sprayed surface is thoroughly dry. Do not use if spray button is missing or defective. For personal protection, see section 8 of the SDS.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Petroleum gases, liquefied (CAS 68476-85-7)	PEL	1800 mg/m3
		1000 ppm
PROPAN-2-OL (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm
STODDARD SOLVENT (CAS 8052-41-3)	PEL	2900 mg/m3
		500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
PROPAN-2-OL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
STODDARD SOLVENT (CAS 8052-41-3)	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	100 mg/m3
Petroleum gases, liquefied (CAS 68476-85-7)	TWA	1800 mg/m3
		1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
PROPAN-2-OL (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm
STODDARD SOLVENT (CAS 8052-41-3)	Ceiling	1800 mg/m3
	TWA	350 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
PROPAN-2-OL (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls Use adequate ventilation to control airborne concentrations below the exposure limits/guidelines. If user operations generate a vapor, dust and/or mist, use process enclosure, appropriate local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits/guidelines.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Suitable chemical protective gloves should be worn when the potential exists for skin exposure. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Nitrile gloves are recommended. Neoprene gloves are recommended.

Other Wear appropriate chemical resistant clothing if applicable.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of OSHA Respiratory Protection Standard 29 CFR 1910.134 and/or Canadian Standard CSA Z94.4.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Yellow.

Odor Hydrocarbon-like.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point >= 140.0 °F (>= 60.0 °C) CLOSED CUP

Evaporation rate < 1 (BuAc=1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	0.831
Relative density temperature	59 °F (15 °C)
Solubility(ies)	
Solubility (water)	INSOLUBLE
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 14 cSt
Viscosity temperature	104 °F (40 °C)
Other information	
VOC (Weight %)	24 % w/w CAM310

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Isocyanates. Chlorine.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Skin contact	Harmful if absorbed through skin. May be irritating to the skin.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May be fatal if swallowed and enters airways. May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Headache. Dizziness.

Information on toxicological effects

Acute toxicity In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. HARMFUL OR FATAL IF SWALLOWED.
May cause respiratory irritation. May irritate eyes and skin.

Components	Species	Calculated/Test Results
PROPAN-2-OL (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg
Oral		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
		4.5 g/kg

Components	Species	Calculated/Test Results
	Rabbit	6410 mg/kg
		5.03 g/kg
	Rat	5045 mg/kg
		4.7 g/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Central nervous system. Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Ecotoxicity

Components		Species	Calculated/Test Results
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
PROPAN-2-OL (CAS 67-63-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

PROPAN-2-OL	0.05
STODDARD SOLVENT	3.16 - 7.15

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

DOT

<Unspecified>

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

<Unspecified>

UN number	UN1950
UN proper shipping name	AEROSOLS, FLAMMABLE
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

<Unspecified>

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

PROPAN-2-OL (CAS 67-63-0) Listed.

SARA 304 Emergency release notification

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
PROPAN-2-OL	67-63-0	3 - 7

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates (petroleum), hydrotreated light (CAS 64742-47-8)
Petroleum gases, liquefied (CAS 68476-85-7)
PROPAN-2-OL (CAS 67-63-0)
STODDARD SOLVENT (CAS 8052-41-3)

US. Massachusetts RTK - Substance List

Distillates (petroleum), hydrotreated light (CAS 64742-47-8)
Petroleum gases, liquefied (CAS 68476-85-7)
PROPAN-2-OL (CAS 67-63-0)
STODDARD SOLVENT (CAS 8052-41-3)

US. New Jersey Worker and Community Right-to-Know Act

Distillates (petroleum), hydrotreated light (CAS 64742-47-8)
Petroleum gases, liquefied (CAS 68476-85-7)
PROPAN-2-OL (CAS 67-63-0)

STODDARD SOLVENT (CAS 8052-41-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Distillates (petroleum), hydrotreated light (CAS 64742-47-8)
Petroleum gases, liquefied (CAS 68476-85-7)
PROPAN-2-OL (CAS 67-63-0)
STODDARD SOLVENT (CAS 8052-41-3)

US. Rhode Island RTK

PROPAN-2-OL (CAS 67-63-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

16. Other information, including date of preparation or last revision

Issue date	07-08-2016
Revision date	07-08-2016
Version	02
HMIS® ratings	Health: 2 Flammability: 4 Physical hazard: 1
NFPA ratings	Health: 2 Flammability: - Instability: 1
Preparation Information and Disclaimer	This document was prepared by FCSD-Toxicology, Ford Motor Company, Diagnostic Service Center II, 1800 Fairlane Drive, Allen Park, MI 48101, USA, based in part on information provided by the manufacturer. The information on this data sheet represents our current data and is accurate to the best of our knowledge as to the proper handling of this product under normal conditions and in accordance with the application specified on the packaging and/or technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user. To the extent that there are any differences between this product's Safety Data Sheet (SDS) and the consumer packaged product labels, the SDS should be followed.
Revision information	This document has undergone significant changes and should be reviewed in its entirety.
Part number(s)	XL-1