



**B**iodegradable **H**ydraulic **F**luid

The X-1R Corporation  
375 Fentress Boulevard  
Daytona Beach, FL 32114  
Phone: 386-271-7000 / Fax: 386-271-7001

# Features of X-1R

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- Meets Hydraulic pump manufacturers Specifications-  
Vickers, Denison, Racine, Cincinnati, etc.
- Excellent lubricity and load carrying capability
- Reduces Friction to help lubricate better
- Helps to protect from rust and corrosion
- Lubricant base is Non-Toxic & Biodegradable  
(CECL33-T-82)
- Safer to use than other conventional hydraulic fluids

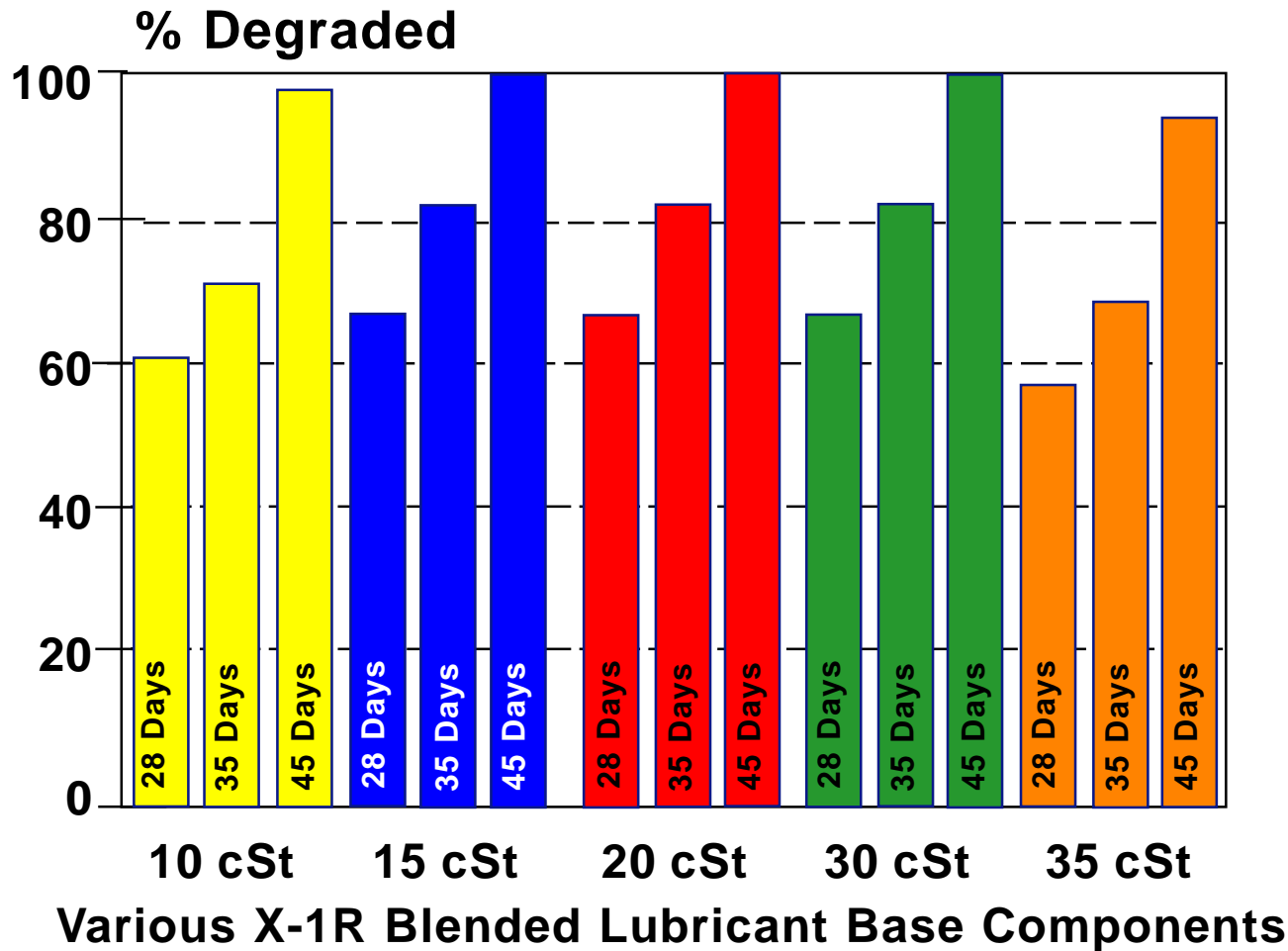




**Biodegradability And  
Environmental Impact Of Base  
Components Used To Manufacture  
X-1R Blended Lubricants**

# Biodegradability of X-1R Semi Synthetic Base Stocks

Test Method - CEC L-33-T-82 - % Degraded (Ground Bacteria) after  
28, 35, & 45 Days



# Six Day Seed Germination Study using X-1R Blended Lubricant Base Components

<u>Seed</u>	<u>Control</u>	<u>ISO 100 (1%)</u>	<u>ISO 100 (2%)</u>	<u>ISO 100 (4%)</u>
Canola	22 <u>±</u> 3.4	24.6	22.7	21.7
Radish	22 <u>±</u> 1.7	21.7	20.3	23.3
Wheat	16.3 <u>±</u> 1.8	16.3	————	————

## Notes:

- 1.) Data represents number of seeds germinated out of 25
- 2.) Tests were conducted in triplicate.

**Conclusion: X-1R ISO 100 base component had no affect on seed germination.**



# Phytotoxicity of X-1R Blended Lubricants Base Components

<u>Plant</u>	<u>Control</u>	<u>ISO 100</u> <u>72 Gal / Acre</u>	<u>ISO 100</u> <u>143 Gal / Acre</u>	<u>ISO 100</u> <u>214 Gal / Acre</u>
Canola	100	100	98.3	100
Radish	100	90.0	93.3	96.0
Wheat	100	98.3	93.3	100

## Notes:

- 1.) Spray Concentrations are cumulative of 2 sprayings
- 2.) No Statistical difference could be determined.

Conclusion: X-1R ISO 100 Base Component Displayed No Phytotoxicity.



# Bioassay of X-1R Blended Products Base Fluids

<u>Test Species</u>	<u>Test Duration / Mode</u>	<u>Test Type</u>	<u>Concentration Test Score</u>	<u>Conclusion</u>
Ceriodaphnia Dubia	48 Hours	LC 50	> 100,000 mg/L	Non-Hazardous
Mysid Shrimp	96 Hours	LC 50	> 100,000 mg/L	Non-Hazardous
Rainbow Trout	96 Hours	LC 50	> 1000,000 mg/L	Non-Hazardous
Rabbit	Oral	LD 50	> 5,000 mg/Kg	Non-Toxic in all Practical Situations
Rabbit	Dermal	LD 50	> 2,000 mg/Kg	Non-Toxic in all Practical Situations
Rabbit	Eye	72 Hours	0	Non-Irritant
Rabbit	Skin	72 Hours	0	Non-Irritant





## **Conclusions:**

**X-1R Blended Lubricants are Biodegradable, Non-Hazardous, and Environmentally Neutral.**



**B**

**H**

**F**

**Operating Comparison**

# Comparison of X-1R BHF & Rape Seed Based Hydraulic Fluids

<u>Item</u>	<u>X-1R BHF</u>	<u>Rape Seed Based Hydraulic Fluid</u>
<u>Flushing Procedures</u>	Not Required for compatibility with other standard Hydraulic oils. Biodegradability and Toxicity is altered by previous fluid.	Required for change over - not compatible with other fluids - Flushing procedures involve solvent, cleaning, and filter replacement.
<u>Water Contamination</u>	Sheds water can be drained from system. Minimal affect on product performance.	Water contamination affects performance of Hydraulic Fluid, especially oxidation life.
<u>Available Viscosities</u>	Available in 22, 32, 46, 68	Available in limited ISO Grade only.
<u>Color</u>	<.5 Very light color	2 - Yellow tint
<u>Food Value</u>	None	Problems with Rodents chewing through hydraulic lines.
<u>Oxidation D943</u>	Excellent oxidation resistance 10,000+ hours, ASTM D943.	Oxidation resistance poor, approx. 75 hours, ASTM D943.
<u>Pump Wear Tests</u>	Pass	Pass



# Comparison Between X-1R BHF and Other Common Hydraulic Fluids

<u>CHARACTERISTIC</u>	<u>TEST METHOD</u>	<u>X-1R BHF</u>	<u>Amoco AW Hydraulic 46</u>	<u>Exxon Terestic 46</u>	<u>Shell Tellus AW 46</u>	<u>Mobil DTE Med 46</u>	<u>Comments</u>
Grade	I.S.O. Viscosity	46	46	46	46	46	-
Density	D4052/D1298	.86	No Data	.87	.88	.86	-
Viscosity, cSt @ 40°C	D445	45	44	44	42	44	-
Viscosity Index	D2270	101	90	97	No Data	95	Higher Viscosity Index results in better equipment protection at elevated temperatures.
Pour Point °F	D97	-30	-30	-6	-10	20	Low pour points indicate pour depressed or Naphthenic Base Stocks.
Flash Point °F	D92	435	425	414	430	400	Higher flash points result in lower volatility safer operation.
Oxidation Stability Hr	D943	10,000+	No Data	No Data	1500+	No Data	Regular Hydraulic Oils are normally between 1000 & 2000 hours.
Color	D1500	<.5	>2	>2	>2	>2	Higher color results from Sulfur compounds which have greater Phytotoxicity.
Copper Corrosion	D130	1	No Data	1	1	No Data	Most Hydraulic oils do not corrode copper. A "1" rating is best.
Rust Test	D665	No Rust	No Rust	No Rust	No Rust	No Rust	Most Hydraulic Oils protect from rust and corrosion.
Foam Sequence 1	D892	0/0	No Data	No Data	No Data	No Data	Foaming is normally controlled with additives.
Pump Wear Test (mg) (Vickers)	D2882	20	No Data	No Data	No Data	No Data	Typical Zn anti-wear additives used in most hydraulic oils will show about 57 mg of lost vane material in this test.
Denison HF-O	Various	Meets	Meets	No Data	Meets	Meets	Most Hydraulic Oils meet all Pump manufacturers tests.
Racine		Meets	Meets	No Data	Meets	Meets	
Cincinnati Milacron		Meets	Meets	No Data	Meets	Meets	

**Note: Data Assembled from specific oil company manuals. "No Data" indicates that the oil company has not run the test or has chosen not to publish their data.**



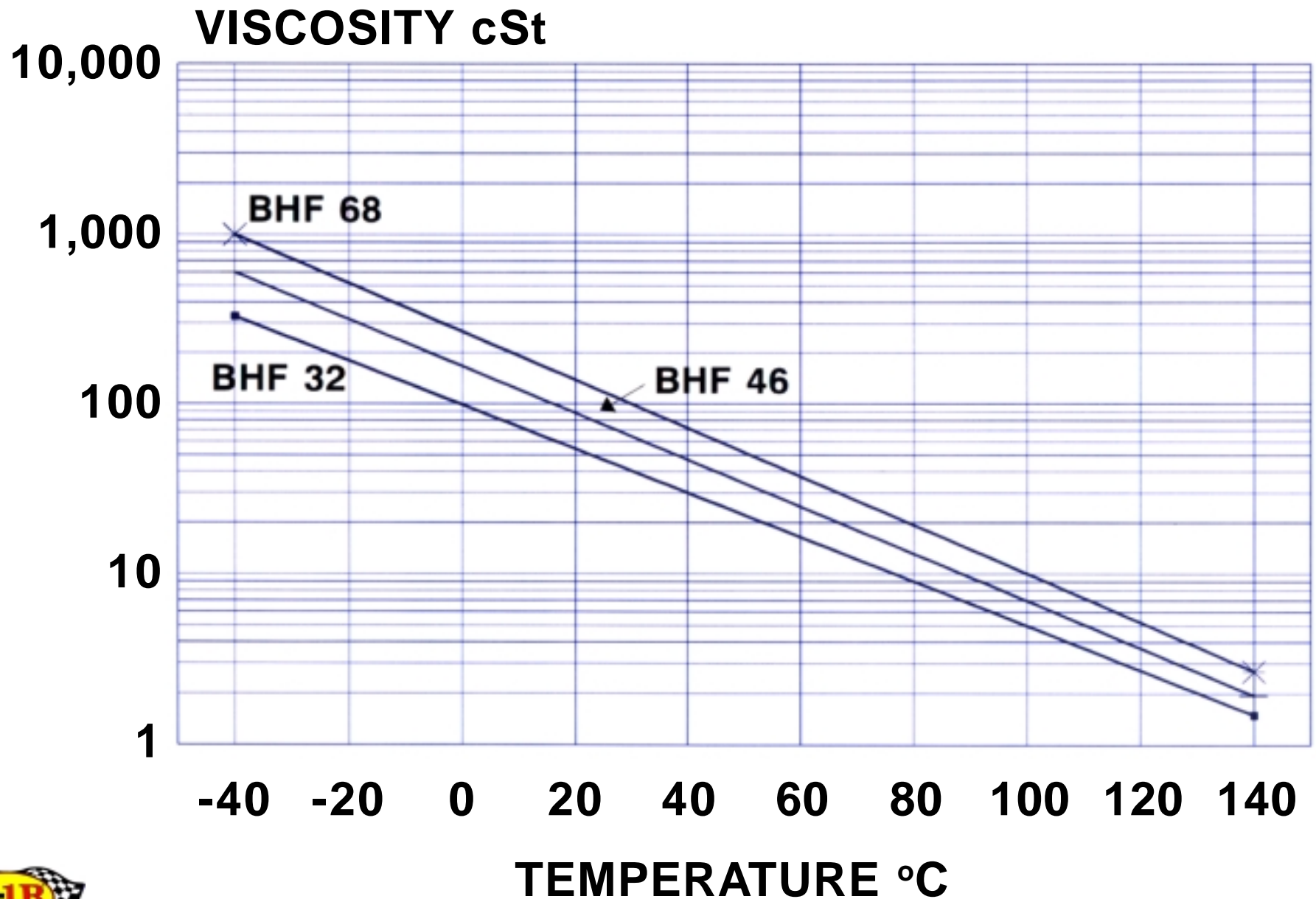
# Conclusions X-1R **B** **H** **F**

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- Meets Hydraulic pump manufacturers Specifications -  
Vickers, Denison, Racine, Cincinnati, etc.
- Excellent lubricity and load carrying capability
- Reduces Friction to help lubricate better
- Helps to protect from rust and corrosion
- Lubricant base is Non-Toxic & Biodegradable  
(CEC L33-T-82)
- Safer to use than other conventional hydraulic fluids

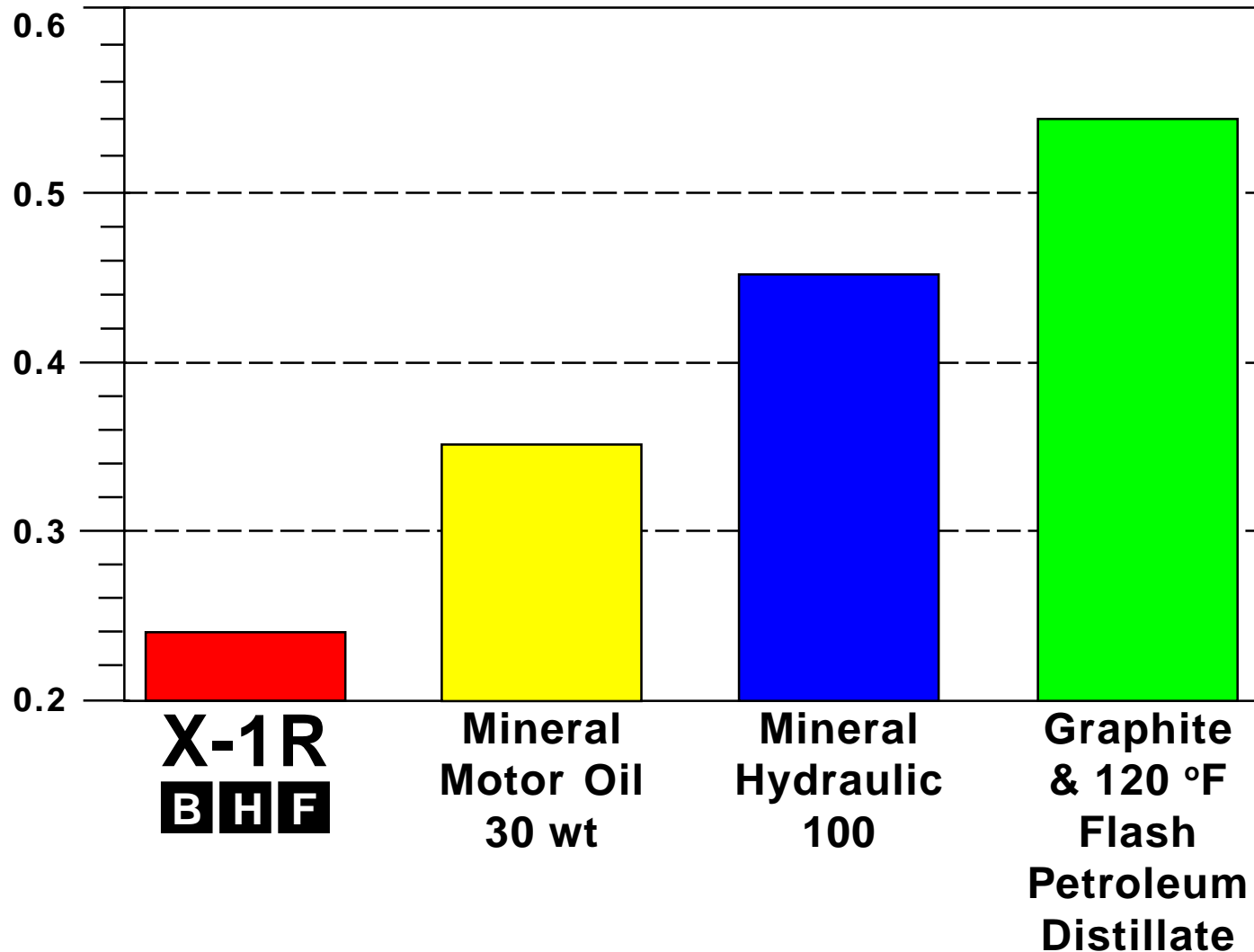


# BHF - Viscosity / Temperature



# Friction Coefficient

Relative Coefficient of Friction



X-1R reduces internal friction which results in lower wear, cleaner operation, and longer trouble free pin & shoe operation.





# The X-1R Corporation

375 Fentress Boulevard

Daytona Beach, FL 32114

Phone: 1-800-747-4X1R / Fax: 386-271-7001

## Biodegradable Hydraulic Fluid

X-1R SYNTHETIC BHF Biodegradable Synthetic Hydraulic Fluids are super high performance fluids made to provide exceptional very long life performance in high temperature turf equipment.

X-1R SYNTHETIC BHF is specifically designed to be NON-Hazardous and NON-Toxic and has the lowest levels of Phytotoxicity of any fluid used in the Turf industry today. It has specific proprietary additives which help reduce the operating temperature of turf hydraulic equipment to lower the level of plant damage from hydraulic spills to negligible levels.

X-1R SYNTHETIC BHF is also designed with exceptional oxidation and wear resistance which helps protect expensive turf equipment from premature hydraulic failures.

X-1R SYNTHETIC BHF provides a new level of technology and protection available for turf equipment today.

- Excellent Oxidation Stability
- High Viscosity Index
- High Flash & Auto-Ignition Points
- Very Low Volatility
- Extremely High Film Strength
- Reduces Equipment Operating Temperatures
- Very Long Life Fluid
- Energy Savings
- Carbon and Varnish Control
- Reduced Maintenance Costs
- Reduced Downtime
- Excellent Materials Compatibility
- Reduced Lubricant Consumption
- Excellent Rust & Corrosion Control

## Typical Properties

Lubricant Designation	BHF 32	BHF 46	BHF 68
Grade	32	46	68
Viscosity cSt @ 40 °C (D445)	30.0	43.0	63.2
Oxidation Stability (D943)	10000+	10000+	10000+
Color (D1500)	<.5	<.5	<.5
Flash Point °F	410	415	425
Pour Point °F	-35	-30	-25
Copper Corrosion (D130)	1a	1a	1a
Rust Test (D665)	Pass	Pass	Pass
Foam Sequence 1	0/0	0/0	0/0
Pump Wear Test (Vickers 35VQ25)	Pass	Pass	Pass
Denison	Meets	Meets	Meets
FZG Stage (1-12) (DIN51354)	12	12	12
Demulsibility, 130 °F, 30 min	40/40/0	40/40/0	40/40/0

# X-1R Train Track Lube

## Material Safety Data Sheet

**Emergency Phone Number: 800-747-4917/386-271-7000**

### Section 1

Company Name  
Address:  
Phone / Fax:  
Trade Name:  
Chemical Name:  
Chemical Family:  
Formula:  
CAS #:  
Applications:

### Company Identification And Chemical Product

The X-1R Corporation  
375 Fentress Blvd., Daytona Beach, FL 32114  
386/271-7000 386/271-7001  
X-1R Train Track Lube  
Synthetic Petroleum Hydrocarbon  
Petroleum Hydrocarbon  
Proprietary  
Proprietary  
X-1R TTL is for use as a train track lubricant

### Section 2

General:

FDA Statement:

### Composition / Information On Ingredients

This Product Is Non-Hazardous. This product contains No Known Carcinogens. No Special warning labels are required under OSHA 29 CFR 1910.1200  
N/A

### Section 3

Appearance:  
Known Hazards

### Hazardous Identification

Clear liquid, slight yellow tint  
This product does not require any special warning labels under OSHA 29 CFR 1910.1200 and contains no known hazardous ingredient.

### Section 4

Eyes:

Skin:

Inhalation:

Ingestion:

### First Aid Measures

Flush with clean, lukewarm water (low pressure) occasionally lifting eyelids. Physician assessment if eyes are inflamed.  
Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse.  
Overexposure by inhalation unlikely.  
Do not induce vomiting. Force fluid. Has laxative effect.

### Section 5

Flash Point:  
Flammable Limits:  
Auto Ignition Limits:  
Fire & Explosion Hazards:  
Extinguishing Media:  
Fire Fighting Procedures:

### Fire Fighting Measures

298 degrees Fahrenheit  
N/A  
N/A  
Low Fire Hazard. Do not cut, drill, or weld empty containers  
Dry chemical foam, water spray, carbon dioxide for small fires  
Cover with extinguishing agent, use water spray to cool fire exposed containers & as a protective screen.  
Do not point water stream directly into burning fluid to avoid spreading.

### Section 6

Spill or Leak:

Waste Disposal:

Sc3018-01-7/94

### Accidental Release Measures

Contain Spill, absorb with inert absorbent such as dry clay, sand, or diatomaceous earth, commercial sorbants or recover using pumps. Scoop up used absorbents into appropriate receptacles.  
Dispose in an approved, secure landfill site or through a licensed waste reclaimer.

NR-Not Regulated N/A-Not Applicable U-Unknown

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### Section 7

### Handling and Storage

Storage Temp  
Min / Max None / 104 degrees recommended  
Shelf Life Indefinite in original container  
Precautions: Not for internal use. Avoid contact with skin, eyes, or clothing

## **Section 8**

Eye Protection: Normally none required, chemical goggles if splashing is likely or if high pressure systems are used.  
Skin Protection: For direct contact for more than 2 hours, Viton or Nitrile is recommended, otherwise PVC may be worn.  
Respiratory Protection: Normally not necessary. If mist is generated, wear approved organic respirator suitable for oil mist areas with sufficient oxygen.

Ventilation: General ventilation  
Exposure Limits: Acute LD50>5000 mg/kg (rat oral) Practically non toxic

## **Section 9**

Appearance: Clear liquid, slight yellow tint  
Boiling Point: >570 degrees F  
Vapor Pressure: <0.001 kPa @ 25 degrees C  
Specific Gravity: 0.85-0.88  
Volatiles, % Volume: 0%  
Odor: Very slight hydrocarbon odor  
Solubility in water: Negligible  
Evaporation Rate: Nil  
Viscosity: @40 degrees C 10-32 depending on grade

## **Section 10**

Stability: Product is stable  
Hazardous:  
Polymerization: Will not occur  
Incompatibilities: Strong oxidizers  
Decomposition Products: Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments when burned.

## **Section 11**

General: Base Stocks - Acute LD50>5000 mg/kg (rat oral)

## **Section 12**

General: No Data Available

## **Section 13**

Waste Disposal: Used product must be disposed of in accordance with federal, state, & local environmental control regulations. Incineration is preferred.

**DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCH**

## **Section 14**

Technical Name: Synthetic Petroleum Hydrocarbon  
DOT Hazardous Class: Not Regulated  
U.N./N.A. #: Not Regulated  
Product Label: X-1R TTL

## **Section 15**

OSHA Status: Not hazardous under 29 CFR 1910.1200

TSCA Status: N/A

RCRA Status: If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However, it is the responsibility of the product user to determine at the time of disposal, whether the material being disposed of is a hazardous waste (40 CFR 261.20-24).

## **Section 16**

General: This information is furnished without warranty, expressed or implied, except that it is accurate to best knowledge of The X-1R Corporation. The data on this sheet related only to the specific material designed herein. The X-1R Corporation assumes no legal responsibility for the use or reliance on this data.

## **Exposure control / Personal Protection**

## **Physical and Chemical Properties**

## **Reactivity**

## **Toxicological Information**

## **Ecological Information**

## **Disposal Considerations**

## **Transportation Information**

## **Regulatory Information**

## **Other Information**

## X-1R Biodegradable Hydraulic Fluid

# Material Safety Data Sheet

**Emergency Phone Number: 800-747-4917 or 386-271-7000**

### Section 1

Company Name  
Address:  
Phone / Fax:  
Trade Name:  
Chemical Name:  
Chemical Family:  
Formula:  
CAS #:  
Applications:

### Company Identification And Chemical Product

The X-1R Corporation  
375 Fentress Blvd. Daytona Beach, Fl. 32114  
386-271-7000 / 386-271-7001  
X-1R Biodegradable Hydraulic Fluid  
Synthetic Hydrocarbon  
Synthetic Hydrocarbon  
Proprietary  
Proprietary  
BHF is for use as a hydraulic fluid in all types of hydraulic equipment

### Section 2

General:

FDA Statement:

### Composition / Information On Ingredients

This Product Is Non-Hazardous. This product contains No Known Carcinogens. No Special warning labels are required under OSHA 29 CFR 1910.1200  
This Product complies with FDA 21 CFR 178.3570

### Section 3

Appearance:  
Known Hazards

### Hazardous Identification

Clear liquid, slight yellow tint  
This product does not require any special warning labels under OSHA 29 CFR 1910.1200 and contains no known hazardous ingredient.

### Section 4

Eyes:

Skin:

Inhalation:

Ingestion:

Flush with clean, lukewarm water (low pressure) occasionally lifting eyelids. Physician assessment if eyes are inflamed.

Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse.

Overexposure by inhalation unlikely.

Do not induce vomiting. Force fluid. Has laxative effect.

### Section 5

Flash Point:  
Flammable Limits:  
Auto Ignition Limits:  
Fire & Explosion Hazards:  
Extinguishing Media:  
Fire Fighting Procedures:

### Fire Fighting Measures

372 degrees Fahrenheit  
N/A  
N/A  
Low Fire Hazard. Do not cut, drill, or weld empty containers  
Dry chemical foam, water spray, carbon dioxide for small fires  
Cover with extinguishing agent, use water spray to cool fire exposed containers & as a protective screen.  
Do not point water stream directly into burning fluid to avoid spreading.

### Section 6

Spill or Leak:

Waste Disposal:  
Sc3018-01-7/94

### Accidental Release Measures

Contain Spill, absorb with inert absorbent such as dry clay, sand, or diatomaceous earth, commercial sorbants or recover using pumps. Scoop up used absorbents into appropriate receptacles.  
Dispose in an approved, secure landfill site or through a licensed waste reclaimer.

NR-Not Regulated N/A-Not Applicable U-Unknown

Page 1 of 2

### Section 7

### Handling and Storage

Storage Temp  
Min / Max None / 104 degrees recommended  
Shelf Life Indefinite in original container  
Precautions: Not for internal use. Avoid contact with skin, eyes, or clothing

## **Section 8**

Eye Protection: Normally none required, chemical goggles if splashing is likely or if high pressure systems are used.  
Skin Protection: For direct contact for more than 2 hours, Viton or Nitrile is recommended, otherwise PVC may be worn.  
Respiratory Protection: Normally not necessary. If mist is generated, wear approved organic respirator suitable for oil mist areas with sufficient oxygen.

Ventilation: General ventilation  
Exposure Limits: Acute LD50>5000 mg/kg (rat oral) Practically non toxic

## **Section 9**

Appearance: Clear liquid, slight yellow tint  
Boiling Point: >570 degrees F  
Vapor Pressure: <0.001 kPa @ 25 degrees C  
Specific Gravity: 0.85-0.88  
Volatiles, % Volume: 0%  
Odor: Very slight hydrocarbon odor  
Solubility in water: Negligible  
Evaporation Rate: Nil  
Viscosity: @40 degrees C 32-68 depending on grade

## **Section 10**

Stability: Product is stable  
Hazardous:  
Polymerization: Will not occur  
Incompatibilities: Strong oxidizers  
Decomposition Products: Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments when burned.

## **Section 11**

General: Product complies with FDA 21CFR 178.3570

## **Section 12**

General: Product is biodegradable (CEC L-33T-82 / 98%- 45 days) Almost no phototoxic affects experienced

## **Section 13**

Waste Disposal Used product must be disposed of in accordance with federal, state, & local environmental control regulations. Incineration is preferred.

**DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCH**

## **Section 14**

Technical Name: Synthetic Hydrocarbon  
DOT Hazardous Class: Not Regulated  
U.N./N.A. #: Not Regulated  
Product Label: Biodegradable Hydraulic Fluid

## **Section 15**

OSHA Status: Not hazardous under 29 CFR 1910.1200

TSCA Status: N/A

RCRA Status: If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However, it is the responsibility of the product user to determine at the time of disposal, whether the material being disposed of is a hazardous waste (40 CFR 261.20-24).

## **Section 16**

General: This information is furnished without warranty, expressed or implied, except that it is accurate to best knowledge of The X-1R Corporation. The data on this sheet related only to the specific material designed herein. The X-1R Corporation assumes no legal responsibility for the use or reliance on this data.

## **Exposure control / Personal Protection**

## **Physical and Chemical Properties**

## **Reactivity**

## **Toxicological Information**

## **Ecological Information**

## **Disposal Considerations**

## **Transportation Information**

## **Regulatory Information**

## **Other Information**



# CTL

## CRAWLER TRACK LUBE

# MATERIAL SAFETY DATA SHEET

Emergency Phone Number: 386-271-7000

Date : August 14, 2002

### SECTION 1

Company Name:  
Address:  
Phone / Fax:  
Trade Name:  
Chemical Name:  
Chemical Family:  
Formula:  
CAS#:  
Applications:

### COMPANY IDENTIFICATION AND CHEMICAL PRODUCT

The X-1R Corporation  
375 Fentress Boulevard, Daytona Beach, FL 32114  
386-271-7000 / 386-271-7001  
CTL  
Synthetic Petroleum Hydrocarbon  
Synthetic Petroleum Hydrocarbon  
Proprietary  
Proprietary  
CTL is for use as a lubricant.

### SECTION 2

General:  
FDA Statement:

### COMPOSITION / INFORMATION ON INGREDIENTS

This Product is NON-HAZARDOUS. The product contains No Known Carcinogens. No Special Warning Labels Are Required Under OSHA 29 CFR 1910.1200.  
N / A

### SECTION 3

Appearance:  
Known Hazards:

### HAZARDS IDENTIFICATION

Clear liquid, Slight yellow tint.  
This product does not require any special warning labels under OSHA 29 CFR 1910.1200 and contains no known hazardous ingredients.

### SECTION 4

Eyes:  
Skin:  
Inhalation:  
Ingestion:

### FIRST AID MEASURES

Flush with clean, lukewarm water (low pressure) occasionally lifting eyelids. Physician assessment if eyes are inflamed.  
Wash affected areas thoroughly with soap and water. Wash contaminated clothing before reuse.  
Avoid breathing oil mists. Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Get medical attention.  
Do not induce vomiting. Force fluids. Has laxative effect.

### SECTION 5

Flash Point:  
Flammable Limits:  
Auto Ignition Temp:  
Fire & Explosion Hazards:  
Extinguishing Media:  
Fire Fighting Procedures:

### FIRE FIGHTING MEASURES

298 °F min  
N/A  
N/A  
LOW FIRE HAZARD - Do not cut, drill, or weld empty containers  
Dry chemical foam, water spray, carbon dioxide for small fires.  
Contain liquid, cover with extinguishing agent, use water spray to cool fire exposed containers and as protective screen. Do not point solid water stream directly into burning fluid to avoid spreading.

### SECTION 6

Spill or Leak:  
Waste Disposal:

### ACCIDENTAL RELEASE MEASURES

Contain Spill, absorb with inert absorbent such as dry clay, sand, or diatomaceous earth, commercial sorbents or recover using pumps. Scoop up used absorbents into approved receptacles.  
Dispose in approved, secure landfill site or through a licensed waste reclaimer.

**SECTION 7**

Storage Temp - min / max:  
 Shelf Life:  
 Precautions:

**HANDLING AND STORAGE**

None / 104 °F recommended  
 Indefinite in original container  
 Not for internal use. Avoid contact with skin, eyes, clothing.

**SECTION 8**

Eye Protection:

**EXPOSURE CONTROL / PERSONAL PROTECTION**

Normally none required. Chemical goggles if splashing is likely or high pressure systems are used.

Skin Protection:

For direct contact of more than 2 hours, Viton or Nitrile gloves are recommended, otherwise PVC may be worn.

Respiratory Protection:

Normally not necessary. If mist is generated, wear approved organic respirator suitable for oil mist areas with sufficient oxygen.

Ventilation:

General ventilation.

Exposure Limits:

Acute LD<sub>50</sub> > 5000 mg/Kg (rat : oral) **PRACTICALLY NON TOXIC**

**SECTION 9**

Appearance:  
 Boiling Point:  
 Vapor Pressure:  
 Specific Gravity:  
 Volatilities, % Volume  
 Odor:  
 Solubility in Water:  
 Evaporation Rate:  
 Viscosity:

**PHYSICAL AND CHEMICAL PROPERTIES**

Clear liquid, Slight yellow tint.  
 >570 °F  
 <0.001 kPa @ 25 °C  
 0.85-0.88  
 0%  
 Slight hydrocarbon odor  
 Negligible  
 Nil  
 @40 °C Varies depending on grade

**SECTION 10**

Stability:  
 Hazardous Polymerization:  
 Incompatibilities:  
 Decomposition Products:

**REACTIVITY**

Product is **STABLE**  
 Will not occur  
 Strong oxidizers  
 Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments when burned.

**SECTION 11**

General:

**TOXICOLOGICAL INFORMATION**

Base Stocks - Acute LD<sub>50</sub> > 5000 mg / Kg (rat : oral)

**SECTION 12**

General:

**ECOLOGICAL INFORMATION**

No data available

**SECTION 13**

Waste Disposal:

**DISPOSAL CONSIDERATIONS**

Used product must be disposed of in accordance with Federal, State, and Local environmental control regulations. Incineration is preferred.  
**DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCH.**

**SECTION 14**

Technical Name:  
 D.O.T. Hazard Class:  
 U.N. / N.A. #  
 Product Label:

**TRANSPORTATION INFORMATION**

Synthetic Petroleum Hydrocarbon  
 Not Regulated  
 Not Regulated  
 CTL

**SECTION 15**

OSHA STATUS:  
 TSCA STATUS:  
 RCRA STATUS:

**REGULATORY INFORMATION**

Non Hazardous under 29 CFR 1910.1200  
 N/A  
 If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However it is the responsibility of the product user to determine at the time of disposal, whether the material being disposed of is a hazardous waste (40 CFR 261.20-24).

**SECTION 16**

General:

**OTHER INFORMATION**

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# The X-1R Corporation

375 Fentress Boulevard

Daytona Beach, FL 32114

Phone: 1-386-271-7000 / Fax: 386-271-7001

## *Air Tool Lubricant*

X-1R Synthetic Air Tool Lubricant is a super premium, synthetic air tool lubricant. It is made from advance technology synthetic base and blended with the finest additives to provide maximum lubrication, cleaning, and protection for modern air tools.

X-1R Synthetic Air Tool Lubricant removes deposits and cleans stuck air tools. It provides outstanding service in even the most severe operating conditions.

- Outstanding Oxidation Stability
- Unsurpassed Water Separation
- High Flash & Auto-Ignition Points
- Low Volatility
- Very High Film Strength
- Excellent Coolant Properties
- Excellent Cleaning Properties
- Superior Penetrating Ability
- Excellent Rust Control
- Carbon and Varnish Control
- Energy Savings
- Reduced Maintenance Costs
- Reduced Downtime
- Reduced Lubricant Consumption

## Typical Properties

Lubricant Designation	ATL
Viscosity Index	127
Viscosity cSt @ 40 °C	22
Viscosity cSt @ 100 °C	4.6
Viscosity SUS @ 100 °F	106.3
Viscosity SUS @ 212 °F	41.4
Flash Point °F	315
Auto-Ignition Point °F	655
Pour Point °F	-20
Oxidation Stability	4000
Color	<.5
Copper Corrosion, 24 Hr	1a
Rust Test	No Rust
Demulsibility, 130 °F, 30 min	40/40/0

## *X-1R AIR TOOL LUBE*

# *Material Safety Data Sheet*

**Emergency Phone Number: 800-747-4917 / 386-271-7000**

### **Section 1**

Company Name  
Address:  
Phone / Fax:  
Trade Name:  
Chemical Name:  
Chemical Family:  
Formula:  
CAS #:  
Applications:

### **Company Identification And Chemical Product**

The X-1R Corporation  
375 Fentress Blvd., Daytona Beach, FL 32114  
386-271-7000 Fax 386-271-7001  
X-1R Air Tool Lube  
Synthetic Petroleum Hydrocarbon  
Petroleum Hydrocarbon  
Proprietary  
Proprietary  
X-1R ATL is for use as an air tool lubricant in industrial plant air systems.

### **Section 2**

General:

### **Composition / Information On Ingredients**

This Product Is Non-Hazardous. This product contains No Known Carcinogens. No Special warning labels are required under OSHA 29 CFR 1910.1200

FDA Statement:

N/A

### **Section 3**

Appearance:  
Known Hazards

### **Hazardous Identification**

Clear liquid, slight blue tint  
This product does not require any special warning labels under OSHA 29 CFR 1910.1200 and contains no known hazardous ingredient.

### **Section 4**

Eyes:

### **First Aid Measures**

Flush with clean, lukewarm water (low pressure) occasionally lifting eyelids. Physician assessment if eyes are inflamed.

Skin:

Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse.

Inhalation:

Overexposure by inhalation unlikely.

Ingestion:

Do not induce vomiting. Force fluid. Has laxative effect.

### **Section 5**

Flash Point:  
Flammable Limits:  
Auto Ignition Limits:  
Fire & Explosion Hazards:  
Extinguishing Media:  
Fire Fighting Procedures:

### **Fire Fighting Measures**

315 degrees fahrenheit  
N/A  
N/A  
Low Fire Hazard. Do not cut, drill, or weld empty containers  
Dry chemical foam, water spray, carbon dioxide for small fires  
Cover with extinguishing agent; use water spray to cool fire exposed containers & as a protective screen. Do not point water stream directly into burning fluid to avoid spreading.

### **Section 6**

Spill or Leak:

### **Accidental Release Measures**

Contain Spill, absorb with inert absorbent such as dry clay, sand, or diatomaceous earth, commercial sorbants or recover using pumps. Scoop up used absorbents into appropriate receptacles.

Waste Disposal:  
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Dispose in an approved, secure landfill site or through a licensed waste reclaimer.

NR-Not Regulated    N/A-Not Applicable    U-Unknown

## **Section 7**

Storage Temp

Min / Max

Shelf Life

Precautions:

## **Section 8**

Eye Protection:

Skin Protection:

Respiratory Protection:

Ventilation:

Exposure Limits:

## **Section 9**

Appearance:

Boiling Point:

Vapor Pressure:

Specific Gravity:

Volatiles, % Volume:

Odor:

Solubility in water:

Evaporation Rate:

Viscosity:

## **Section 10**

Stability:

Hazardous:

Polymerization:

Incompatibilities:

Decomposition Products:

## **Section 11**

General:

## **Section 12**

General:

## **Section 13**

Waste Disposal

## **Section 14**

Technical Name:

DOT Hazardous Class:

U.N./N.A. #

Product Label:

## **Section 15**

OSHA Status:

TSCA Status:

RCRA Status:

## **Section 16**

General:

## **Handling and Storage**

None / 104 degrees recommended

N/A

Not for internal use. Avoid contact with skin, eyes, or clothing

## **Exposure control / Personal Protection**

Normally none required, chemical goggles if splashing is likely or if high-pressure systems are used.

For direct contact for more than 2 hours, Viton or Nitrile is recommended, otherwise pvc may be worn.

Normally not necessary. If mist is generated, wear approved organic respirator suitable for oil mist areas with sufficient oxygen.

General ventilation

Acute LD50>5000 mg/kg (rat oral) Practically non toxic

## **Physical and Chemical Properties**

Clear liquid, Slight blue tint

>570 degrees F

<0.001 kPa @ 25 degrees C

0.85-0.88

0%

Very slight hydrocarbon odor

Negligible

Nil

@40 degrees C 22-46 depending on grade

## **Reactivity**

Product is stable

Will not occur

Strong oxidizers

Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments when burned.

## **Toxicological Information**

Base Stocks - Acute LD50>5000 mg/kg (rat oral)

## **Ecological Information**

No Data Available

## **Disposal Considerations**

Used product must be disposed of in accordance with federal, state, & local environmental control regulations. Incineration is preferred.

**DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCH**

## **Transportation Information**

Petroleum Hydrocarbon

Not Regulated

Not Regulated

X-1R ATL

## **Regulatory Information**

Not hazardous under 29 CFR 1910.1200

N/A

If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However, it is the responsibility of the product user to determine at the time of disposal, whether the material being disposed of is a hazardous waste (40 CFR 261.20-24).

## **Other Information**

This information is furnished without warranty, expressed or implied, except that it is accurate to best knowledge of The X-1R Corporation. The data on this sheet related only to the specific material designed herein. The X-1R Corporation assumes no legal responsibility for the use or reliance on this data.

# X-1R Penetrating Spray Lube

## *Material Safety Data Sheet*

**Emergency Phone Number: 800-747-4917/386-271-7000**

### **Section 1**

Company Name  
Address:  
Phone / Fax:  
Trade Name:  
Chemical Name:  
Chemical Family:  
Formula:  
CAS #:  
Applications:

### **Company Identification And Chemical Product**

The X-1R Corporation  
375 Fentress Blvd. Daytona Beach, Fl. 32114  
386/271/7000 / 386/271/7001  
X-1R Penetrating Spray Lube  
Synthetic Petroleum Hydrocarbon  
Petroleum Hydrocarbon  
Proprietary  
Proprietary  
X-1R PSL is for general lubrication of all types of light machine parts

### **Section 2**

General:

FDA Statement:

### **Composition / Information On Ingredients**

This Product Is Non-Hazardous. This product contains No Known Carcinogens. No Special warning Labels are required under OSHA 29 CFR 1910.1200  
N/A

### **Section 3**

Appearance:  
Known Hazards

### **Hazardous Identification**

Clear liquid, slight yellow tint  
This product does not require any special warning labels under OSHA 29 CFR 1910.1200 and contains no known hazardous ingredient.

### **Section 4**

Eyes:

Skin:

Inhalation:

Ingestion:

### **First Aid Measures**

Flush with clean, lukewarm water (low pressure) occasionally lifting eyelids. Physician assessment if eyes are inflamed.  
Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse.  
Overexposure by inhalation unlikely.  
Do not induce vomiting. Force fluid. Has laxative effect.

### **Section 5**

Flash Point:  
Flammable Limits:  
Auto Ignition Limits:  
Fire & Explosion Hazards:  
Extinguishing Media:  
Fire Fighting Procedures:

### **Fire Fighting Measures**

300 degrees Fahrenheit  
N/A  
N/A  
Low Fire Hazard. Do not cut, drill, or weld empty containers  
Dry chemical foam, water spray, carbon dioxide for small fires  
Cover with extinguishing agent; use water spray to cool fire exposed containers & as a protective screen.  
Do not point water stream directly into burning fluid to avoid spreading.

### **Section 6**

Spill or Leak:

Waste Disposal:

### **Accidental Release Measures**

Contain Spill, absorb with inert absorbent such as dry clay, sand, or diatomaceous earth, commercial sorbants or recover using pumps. Scoop up used absorbents into appropriate receptacles.  
Dispose in an approved, secure landfill site or through a licensed waste reclaimer.

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NR-Not Regulated N/A-Not Applicable U-Unknown

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### **Section 7**

### **Handling and Storage**

Storage Temp  
Min / Max None / 104 degrees recommended  
Shelf Life N/A  
Precautions: Not for internal use. Avoid contact with skin, eyes, or clothing

## **Section 8**

Eye Protection: Normally none required, chemical goggles if splashing is likely or if high-pressure systems are used.  
Skin Protection: For direct contact for more than 2 hours, Viton or Nitrile is recommended, otherwise pick may be worn.  
Respiratory Protection: Normally not necessary. If mist is generated, wear approved organic respirator suitable for oil mist areas with sufficient oxygen.

Ventilation: General ventilation  
Exposure Limits: Acute LD50>5000 mg/kg (rat oral) Practically non toxic

## **Section 9**

Appearance: Clear liquid, slight yellow tint  
Boiling Point: >570 degrees F  
Vapor Pressure: <0.001 kPa @ 25 degrees C  
Specific Gravity: 0.85-0.88  
Volatiles, % Volume: 0%  
Odor: Very slight hydrocarbon odor  
Solubility in water: Negligible  
Evaporation Rate: Nil  
Viscosity: @40 degrees C 22-46 depending on grade

## **Section 10**

Stability: Product is stable  
Hazardous:  
Polymerization: Will not occur  
Incompatibilities: Strong oxidizers  
Decomposition Products: Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments when burned.

## **Section 11**

General: Base Stocks - Acute LD50>5000 mg/kg (rat oral)

## **Section 12**

General: No Data Available

## **Section 13**

Waste Disposal: Used product must be disposed of in accordance with federal, state, & local environmental control regulations. Incineration is preferred.  
**DO NOT HEAT OR CUT EMPTY CONTAINERS WITH ELECTRIC OR GAS TORCH**

## **Section 14**

Technical Name: Petroleum Hydrocarbon  
DOT Hazardous Class: Not Regulated  
U.N./N.A. #: Not Regulated  
Product Label: X-1R PSL

## **Section 15**

OSHA Status: Not hazardous under 29 CFR 1910.1200  
TSCA Status: N/A  
RCRA Status: If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However, it is the responsibility of the product user to determine at the time of disposal, whether the material being disposed of is a hazardous waste (40 CFR 261.20-24).

## **Section 16**

General: This information is furnished without warranty, expressed or implied, except that it is accurate to best knowledge of The X-1R Corporation. The data on this sheet related only to the specific material designed herein. The X-1R Corporation assumes no legal responsibility for the use or reliance on this data.

## **Exposure control / Personal Protection**

## **Physical and Chemical Properties**

## **Reactivity**

## **Toxicological Information**

## **Ecological Information**

## **Disposal Considerations**

## **Transportation Information**

## **Regulatory Information**

## **Other Information**