

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** FS HD HYDRAULIC ISO 32

**Other means of identification** None.

**Recommended use** Hydraulic oil

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information** Manufacturer

**Company name** GROWMARK INC.  
**Address** 2200 South Avenue  
Council Bluffs, IA 51503  
United States

**Telephone** General Assistance 800-798-6457

**E-mail** Not available.

**Emergency phone number** CHEMTREC 800-424-9300

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**

**Hazard symbol** None.

**Signal word** None.

**Hazard statement** The mixture does not meet the criteria for classification.

**Precautionary statement**

**Prevention** Observe good industrial hygiene practices.

**Response** Wash hands after handling.

**Storage** Store away from incompatible materials.

**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), solvent-dewaxed heavy paraffinic		64742-65-0	50 - < 60
Lubricating Oils (petroleum), Hydrotreated Spent		64742-58-1	40 - < 50
Other components below reportable levels			< 1

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

**Inhalation** Move to fresh air. 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. Get medical attention if symptoms occur.

Material name: FS HD HYDRAULIC ISO 32

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<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. 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.  Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.
<b>Environmental precautions</b>	

## 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid prolonged exposure. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

Components	Type	Value	Form
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	PEL	5 mg/m3	Mist.
		2000 mg/m3 500 ppm	

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	TWA	5 mg/m3	Inhalable fraction.
0) Lubricating Oils (petroleum), Hydrotreated Spent (CAS 64742-58-1)	TWA	5 mg/m3	Inhalable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value	Form
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).		
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.		
<b>Individual protection measures, such as personal protective equipment</b>			
<b>Eye/face protection</b>	If contact is likely, safety glasses with side shields are recommended.		
<b>Skin protection</b>			
<b>Hand protection</b>	For prolonged or repeated skin contact use suitable protective gloves.		
<b>Other</b>	Wear suitable protective clothing.		
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.		
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.		
<b>General hygiene considerations</b>	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**

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	680 °F (360 °C) estimated
<b>Flash point</b>	275.0 °F (135.0 °C) estimated
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	500 °F (260 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.



#### Other information

Density	7.32 lbs/gal estimated
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	0.00002 % estimated
Specific gravity	0.88 estimated
VOC (Weight %)	0.00002 % estimated

### 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	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

### 11. Toxicological information

#### Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**  
Direct contact with eyes may cause temporary irritation.

#### Information on toxicological effects

Acute toxicity	Not available.
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

##### IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

##### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

##### US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

**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**  
Not classified.

**Aspiration hazard**  
Not an aspiration hazard.

**Chronic effects**  
Prolonged inhalation may be harmful.

**Further information**  
This product has no known adverse effect on human health.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	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

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	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.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

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

## 15. Regulatory information

**US federal regulations** This product is not known to be 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)**

Not listed.

### **SARA 304 Emergency release notification**

Not regulated.

### **OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

### **Superfund Amendments and Reauthorization Act of 1986 (SARA)**

#### **Hazard categories**

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

#### **SARA 302 Extremely hazardous substance**

Not listed.

#### **SARA 311/312 Hazardous No chemical**

#### **SARA 313 (TRI reporting)**

Not regulated.

#### 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), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)

Lubricating Oils (petroleum), Hydrotreated Spent (CAS 64742-58-1)

##### US. Massachusetts RTK - Substance List

Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)

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

Not listed.

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

Not listed.

##### US. Rhode Island RTK

Not regulated.

##### 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

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A 'Yes' indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A 'No' indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

Issue date 04-23-2015

Revision date 12-16-2015

Version # 02

**Disclaimer** GROWMARK INC. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.



Revision information

Hazard(s) identification: Hazard statement  
Hazard(s) identification: Disposal  
Hazard(s) identification: Prevention  
Hazard(s) identification: Response  
Hazard(s) identification: Storage  
First-aid measures: Indication of immediate medical attention and special treatment needed  
Physical and chemical properties: Oxidizing properties  
Physical and chemical properties: Explosive properties  
Toxicological information: Further information  
Ecological information: Persistence / degradability  
Regulatory information: US federal regulations  
Other information, including date of preparation or last revision: Further information  
GHS: Classification

# FS HD Hydraulic ISO 32, 46, & 68

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## Recommended Use:

- Applications where maximum pump protection and/or longer fluid life is desired.
- Both high- and low-pressure hydraulic systems for industrial and mobile applications.
- A broad range of industrial applications, machine tools, presses, injection molding machines, central systems, gear cases, and various bearing applications.
- Mobile loading and continuous mining equipment where high speeds, loads, and temperatures are encountered.
- Reduction gears and bearings with greater load-carrying requirements than are satisfied by conventional R&O fluids.

## Meets or Exceeds:

- Vickers M-2950-S (Mobile), I-286-S (Industrial)
- Denison HF-0, HF-1, HF-2
- Cincinnati Machine P-68
- Racine Variable volume vane pumps
- DIN 51524 Part 2
- Jeffrey No. 87
- US Steel 136, 127
- General Motors LH-04-1, LH-06-1, LH-15-1
- AFNOR E 48-603
- Lee-Norse 100-1
- Ford M-6C32
- B.F. Goodrich 0152
- Commercial Hydraulics

## Product Availability:

### FS HD Hydraulic ISO 32

2 x 2.5 Gal.	Item #70683
55-gal. Drum	Item #70591
265-gal. Totes	Item #74392
Bulk	Item #71036

### FS HD Hydraulic ISO 48

2 x 2.5 Gal.	Item #71056
6 x 1 gal.	Item #177016-W
55-gal. Drum	Item #71096
265-gal. Totes	Item #74241
Bulk	Item #71038

### FS HD Hydraulic ISO 68

2 x 2.5 Gal.	Item #166955
5 Gal. Pail	Item #158597
55-gal. Drum	Item #158598
265-gal. Totes	Item #158599
Bulk	Item #153570





## Typical Properties:

Test / Description	Specification		
ISO Grade	32	46	68
Viscosity @ 100°C (cSt)	5.4	6.9	8.9
Viscosity @ 40°C (cSt)	32.0	46.0	68.0
Viscosity Index	102	105	104
Density (lb/gal)	7.17	7.26	7.27
Pour Point (°C)	-30	-27	-24
Pour Point (°F)	-22	-17	-11
Flash Point (°C)	210	210	220
Pour Point (°F)	410	410	428
Rust Test	Pass	Pass	Pass
Turbine Oil Stability Test (hrs)	6,000+	6,000+	6,000+