MANUFACTURED FOR:
GROWMARK, Inc.
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SAFETY DATA SHEET

UNITED SYNTHETIC HYDRAULIC OIL ISO22

Date : 04/15/2016
Version : 6

Section 1. Identification

GHS product identifier	:	United Synthetic Hydraulic Oil ISO22
Code	:	H22
Product type	:	Liquid.
Identified uses	:	Hydraulic fluid. Not to be misted.
Manufacturer	:	SEVERUS INC. 1101 Susquehanna Ave Superior, WI 54880 Tel: +1 715-395-0946
Initial Supplier (Canada)	:	AMSOIL INC. Bordner, Ladner, Gervais Scotia Plaza, 40 King St W Toronto, ON, Canada M5H 3Y4 Tel: +1 416-367-6547
Emergency telephone number (with hours of operation)	:	CHEMTREC: Within USA and Canada: 1-800-424-9300;

Section 2. Hazards identification

OSHA!HCS status	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	:	ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 4

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
Harmful if inhaled.
Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS))
May cause long lasting harmful effects to aquatic life.

Precautionary statements

Prevention : Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC) : None known.

Health hazards not otherwise classified (HHNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : H22

Ingredient name	%	CAS number
Dec-1-ene, dimers, hydrogenated	≥25 - ≤50	68649-11-6
Reaction mass of: branched icosane;branched docosane;branched tetracosane	≥25 - ≤50	151006-58-5
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	≥25 - ≤50	68037-01-4
Interchangeable neutral oils	≥3 - ≤5	-
Base Oils*	≥1 - ≤1.5	-
Stoddard solvent	≥1 - <2	8052-41-3

*Base Oil(s): 64742-47-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention following exposure or if feeling unwell.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Maintain an open airway. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 20 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically.

Specific treatments : No specific treatment.

Protection of first-aiders : If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical	: This material may cause long lasting harmful effects to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	: No special protection is required.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Spill	: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Avoid contact with used product. Do not reuse container.

Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Under conditions which may generate mists, the following exposure limits are recommended: ACGIH TLV TWA: 5 mg/m^3 ; STEL: 10 mg/m^3.

United States

Ingredient name	Exposure limits
Stoddard solvent	ACGIH TLV (United States, 3/2015). TWA: 100 ppm 8 hours. TWA: 525 mg/m^3 8 hours. NIOSH REL (United States, 10/2013). TWA: 350 mg/m^3 10 hours. CEIL: 1800 mg/m^3 15 minutes. OSHA PEL (United States, 2/2013). TWA: 500 ppm 8 hours. TWA: 2900 mg/m^3 8 hours.

Canada

Occupational exposure limits

Ingredient name	Exposure limits
Stoddard solvent	CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 572 mg/m^3 8 hours. 8 hrs OEL: 100 ppm 8 hours. CA British Columbia Provincial (Canada, 5/2015). TWA: 290 mg/m^3 8 hours. STEL: 580 mg/m^3 15 minutes. CA Ontario Provincial (Canada, 7/2015). TWA: 525 mg/m^3 8 hours. TWA: 100 ppm 8 hours. CA Quebec Provincial (Canada, 1/2014). TWAEV: 100 ppm 8 hours. TWAEV: 525 mg/m^3 8 hours. CA Saskatchewan Provincial (Canada). STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state . Liquid. [Fluid.]

Color . Straw.

Odor . Mild hydrocarbon.

Odor threshold . Not available.

pH . Not available.

Melting point : <-60°C (<-76°F)

Boiling point : Not available.

Flash point : Open cup: 174°C (345.2°F) [Cleveland.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.8363

Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic: 0.059 cm^2/s (5.9 cSt) (100°C) Kinematic: 0.212 cm^2/s (21.2 cSt) (40°C)
Volatility	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Stoddard solvent	Eyes - Mild irritant Eyes - Moderate irritant	Huma n Rabbit	- -	100 ppm 24 hours 500 mg	- -

Sensitization

There is no data available. Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Distillates, hydrotreated light naphthenic	-	-	-	A4	-	-
Distillates, hydrotreated light Paraffin oils	- -	- -	- -	A3 A4	- -	- -

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Interchangeable neutral oils	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Stoddard solvent	Category 1	Not determined	central nervous system (CNS)

Aspiration hazard

Name	Result
Dec-1-ene, dimers, hydrogenated	ASPIRATION HAZARD - Category 1
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	ASPIRATION HAZARD - Category 1
Interchangeable neutral oils	ASPIRATION HAZARD - Category 1
Distillates, hydrotreated light	ASPIRATION HAZARD - Category 1
Stoddard solvent	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (dusts and mists)	2.122 mg/L

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Distillates, hydrotreated light	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Dec-1-ene, dimers, hydrogenated	>6.5	-	high
Reaction mass of: branched icosane; branched docosane;branched tetracosane	>6.5	-	high
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	>6.5	-	high
Stoddard solvent	3.16 to 7.06	-	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when

recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

AERG : Not applicable

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: Zinc Alkyldithiophosphate; Ethylbenzene; Benzene; Naphthalene

Clean Water Act (CWA) 311: Ethylbenzene; Benzene; Naphthalene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Dec-1-ene, dimers, hydrogenated	≥50 - ≤75	No.	No.	No.	Yes.	No.
Reaction mass of: branched icosane;branched docosane;branched tetracosane	≥50 - ≤75	No.	No.	No.	Yes.	No.
Interchangeable neutral oils	≥3 - ≤5	No.	No.	No.	Yes.	No.
Distillates, hydrotreated light	≥1 - ≤1.5	Yes.	No.	No.	No.	No.
Stoddard solvent	≥1 - <2	Yes.	No.	No.	Yes.	Yes.

SARA 313

No products were found.

State regulations

Massachusetts : The following components are listed: Distillates, hydrotreated light naphthenic; Paraffin oils; Stoddard solvent

New York : None of the components are listed.

New Jersey : The following components are listed: Distillates, hydrotreated light naphthenic; Paraffin oils; Stoddard solvent

Pennsylvania : The following components are listed: Distillates, hydrotreated light naphthenic; Distillates, hydrotreated light; Paraffin oils; Stoddard solvent

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.
WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Paraffin oils	Yes.	No.	No.	No.
Ethylbenzene	Yes.	No.	41 µg/day (ingestion) 54 µg/day (inhalation)	No.
Benzene	Yes.	Yes.	6.4 µg/day (ingestion) 13 µg/day (inhalation)	24 µg/day (ingestion) 49 µg/day (inhalation)
Naphthalene	Yes.	No.	Yes.	No.

Canada

Canadian lists

Canadian NPRI	: The following components are listed: Distillates, hydrotreated light; Stoddard solvent
CEPA Toxic substances	: None of the components are listed.
Canada inventory	: All components are listed or exempted.

Section 16. Other information

History

Date of issue mm/dd/yyyy	: 04/15/2016
Date of previous issue	: 06/15/2014
Version	: 6
Prepared by	: SEVERUS INC.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.