Material Safety Data Sheet

Revision date: 03-Mar-2015 **Supersedes Date:** 05-June-2011 **Version** 2

1. Product and Company Identification

Product name	**SCHULTZ® S740**
CAS No	8004-13-5
Recommended Use	Heat transfer fluids
Company	Schultz Canada Chemicals Ltd
address:	1699 Matthews Ave Vancouver BC, V6J 2T3
Telephone	778-383-2793
E-mail address	Jillian.Jiang@schultzchem.com
Emergency Telephone	**778-938-5977**

2. Hazards Identification

Appearance	Clear
Color	Colorless
Physical State	Liquid
Odor	Characteristic

Signal word - Warning

Emergency Overview：

Irritating to eyes, respiratory system and skin Harmful by inhalation,

Contains material which can cause liver and nerve damage.

Potential health effects	
Acute toxicity	
Eye Contact	Irritating to eyes.
Skin Contact	Irritating to skin.
Inhalation	Harmful by inhalation. Irritating to respiratory system.
Ingestion	No more than slightly toxic.
Chronic effects	Avoid repeated exposure
Environmental hazard	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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3. Composition/Information on Ingredients

Component	CAS No	Weight %
Diphenyl oxide	101-84-8	73.5
Biphenyl	92-52-4	26.5

4. First-Aid Measures

General advice	In case of doubt or symptoms persist, seek medical advice. In case of unconscious, get medical attention immediately.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately if symptoms occur.
Skin contact	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
Inhalation	If inhaled: Remove to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
Ingestion	If swallowed: rinse mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do NOT induce vomiting unless directed to do so by a physician. Call a physician immediately. .If breathing is difficult, give oxygen. If not breathing, give artificial respiration Call a physician immediately.
Notes to physician	Persons who have inhaled vapors or smoke fumes have to be put under medical observation for at least 48 hours, due to the delayed appearance of poisoning.

5. Fire-Fighting Measures

Suitable extinguishing media	Water spray, Foam, Dry powder, Carbon dioxide (CO2).
extinguishing media which shall not be used for safety reasons	Do not use direct water stream. May spread fire.
Special Hazard	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Hydrocarbons. Carbon monoxide. Carbon dioxide.Toxic to aquatic life with long lasting effects. Runoff may pollute waterways.
Special Protective Equipment for Firefighters	As in any fire, wear self-contained breathing apparatus (SCBA) , and full protective gear.Evacuate all persons from the vicinity Promptly isolate the scene. Prevent fire extinguishing water from contaminating surface water and groundwater systems .Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and extinguishing water contaminated must comply with local regulations for disposal. In the premise there is no danger of the container is removed from the scene in. Water spray to cool containers / tanks.

6. Accidental Release Measures

Personal precautions	Do not touch or walk through spilled material. Avoid contact skin, eyes and clothing. Wear personal protective equipment. If appropriate refer to headings 8.
Environmental precautions	Stop leak if safe to do so. Clean up spill immediately. Prevent from entering into soil, drains or water courses.
Methods for containment and cleaning up	Small spills: as far as possible the leaking fluid collection in airtight containers. Absorb with sand, diatomaceous earth or other inert materials, Large spills: constructing dike or have dug a pit for a large number of the leakage, and transferred to the properly labeled containers, recycling or shipped to the disposal of waste places. Clean contaminated surface thoroughly. Prevent product and washing from entering drains, sewers or surface water. If appropriate refer to headings 13.

7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Wash thoroughly after handling. Use in well ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. See also headings 8.
Storage	Store in a dry, cool and well-ventilated place. Keep container closed. Keep away from direct sunlight. Keep away from contact with oxidizing materials. Away from fire and heat source. Keep in properly labeled containers to avoid environmental contamination. Store in accordance with local regulations.

8. Exposure Controls/Personal Protection

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diphenyl ether	TWA: 1 ppm vapor STEL: 2 ppm vapor	TWA: 7 mg/m$_3$ vapor TWA: 1 ppm vapor	IDLH: 100 ppm vapor TWA: 7 mg/m$_3$ vapor TWA: 1 ppm vapor
Biphenyl	TWA: 0.2 ppm	TWA: 1 mg/m$_3$ TWA: 0.2 ppm	IDLH: 100 mg/m$_3$ TWA: 1 mg/m$_3$ TWA: 0.2 ppm

Exposure controls	
Engineering Controls	Maintain air concentrations below occupational exposure standards. Apply technical measures to comply with the occupational exposure limits. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.
Personal protective equipment	
Eye protection	Use chemical goggles. In order to avoid direct exposure to liquid splashes, mists or dusts suggestion: Wear safety glasses with side shields if splashing may occur, wear a mask.
Skin and body protection	Wear protective gloves. If necessary, wear protective clothing and rubber boots to prevent skin and body contact with liquid Material. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction
Respiratory protection	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hand Protection	Wear chemical resistant gloves. Please read carefully the glove supplier explain the permeability about gloves and solvent penetration time.
Environmental exposure controls	The product should not be allowed to enter drains, water courses or the soil. Avoid release to the environment.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Clear Liquid
Color	Colorless
Odor	Characteristic
Odor threshold	No information available
pH	No information available
Melting point/freezing point	12 °C
Boiling point/boiling range	257 °C (1013 hPa）
Flash point	118 °C (Closed Cup) 136 °C (Open Cup)
Evaporation Rate	No information available
Specific gravity	1.06 (25°C)
Flammability (solid, gas)	Not flammable
Flammability Limits in Air	
Upper flammability limit	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Water solubility	0.025 g/l
Solubility in other solvents	No information available.
Partition coefficient:n-octanol/water	No information available.
Auto-ignition temperature	600℃
Decomposition temperature	No information available
Viscosity, kinematic	2.5 mm^2/s (40 °C) 0.99 mm^2/s (100 °C)
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing

OTHER INFORMATION

Density	1063 kg/m^3 (20°C)

10. Stability and Re-activity

Stability	Stable under normal conditions.
Conditions to avoid	Heating in air.
Incompatible materials	Strong oxidizing agents.
Hazardous polymerization:	Hazardous polymerization Will not occur.
Hazardous decomposition products:	None known based on information supplied.

11. Toxicological Information

Acute toxicity	
Product Information	
LD50 Oral (Rat):	2050 mg/kg
LD50 Dermal (Rabbit):	＞ 5010 mg/kg
LC50 Inhalation (Rat,4hr):	＞ 2.66 mg/l

Inhalation	Harmful by inhalation. Irritating to respiratory system.
Eyes	Irritating to eyes.
Skin	Irritating to skin.
Ingestion	No more than slightly toxic.
Chronic Toxicity	Avoid repeated exposure. Contains material which can cause liver and nerve damage.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. Expert judgment and weight of evidence determination: Not sufficient for Classification.
Sensitization	Did not cause sensitization on laboratory animals (Guinea pig).
Germ cell mutagenicit	The weight of the evidence indicates that this material is not mutagenic in in-vitro assays.
Developmental Toxicity	No effects on offspring observed in laboratory animals in the presence of maternal toxicity.
Target organ effect	Respiratory system. Eyes. Liver. Central nervous system.

12. Ecological Information

Toxicity

Acute aquatic toxicity		
Product Information		
96 hr LC50 (Fish):	7.6 mg/l	(Oncorhynchus mykiss)
48 hr EC50 (Aquatic invertebrates):	2.4 mg/l	(Daphnia magna)
72hr EC50 (Algae/aquatic plants):	1.3 mg/l	(Selenastrum capricornutum)
Conclusion	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	

Eco-toxicity	
Persistence and degradation	OECD Test No. 302A: Inherent Biodegradability: Modified SCAS Test: Inherently biodegradable.
Bio-accumulation	Product has a moderate potential to bio-concentrate.

13. Disposal Considerations

Waste disposal methods	Do not allow into any sewers, ground, or into any water. All disposal practices must be in compliance with state and local laws and regulations. For the safety of persons conducting disposal, recycling or reclamation activities, please refer to the information in headings 8 (exposure controls and personal protection) of the SDS.
Contaminated packaging	Empty packaging should be taken to an approved waste handling site for recycling or disposal.
Other Information:	See headings 15 for more information.

14. Transport Information

DOT

UN/ID no	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (biphenyl)
Hazard Class	9
Packing Group	III
Marine pollutant	Yes

IMDG	
UN/ID no	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (diphenyl ether,biphenyl)
Hazard Class	9
Packing Group	III
Marine pollutant	Yes
EmS	F-A, S-F.

IATA	
UN/ID no	UN3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (diphenyl ether,biphenyl)
Hazard Class	9
Packing Group	III

TDG	Not regulated

15. Regulatory Information

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Re-authorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazard Categories	
Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

D2B Toxic materials

Materials causing other toxic effects

16. Other Information

NFPA	**Health hazard** 1	**Flammability** 1	**Stability** 0
HMIS	**Health hazard** 1	**Flammability** 1	**Physical hazard** 0

Supersedes date:	05-June-2011
Revision date:	03-Mar-2015
Revision Note:	New SDS format. SDS sections updated: All.

Disclaimer:

The SDS information applies only to the specified product, unless otherwise specified, in the case of a mixture of this product with other substances, which do not apply. The information provided is a guide for the safe operation and not as a guarantee of the quality manual. The SDS only those received professional training in the proper use of the product provides product safety information for. Users of this SDS, under special conditions of use must be made of the suitability of the SDS independent judgment. In special occasions, due to the use of this SDS caused injury, this SDS writers will not be held responsible.