

Safety Data Sheet

HCS-500

**AEROCHEM**

1. Identification

Product identifier	HCS-500
Product code	FLHCS50020LT ; FLHCS500205LT
Other means of identification	N.Av.
Recommended use of the chemical and restrictions on use	Semi-Synthetic Cooling Fluid. Not recommended for any other use not detailed on product data sheet or label.
Manufacturer	AEROCHEM Inc. 5977 Trans Canada Highway Pointe-Claire, QC H9R 1C1 Canada General Information: 1-888-592-5837 www.aerochem.ca info@aerochem.ca
Emergency phone number	INFOTRAC®: 1-800-535-5053 International call collect: 1-352-323-3500 24 hours/day, 7 days/week

2. Hazard identification

Summary	Avoid contact with skin, eyes and clothing. Do not breathe vapours, mists or aerosols. Do not ingest. If medical advice is needed, have this SDS or label at hand. Wear eye protection, gloves and other protective clothing that are adapted to the task being performed and the risks involved.
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WHMIS 2015/GHS/OSHA HCS 2012

Acute toxicity, inhalation (Category 4)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 1)
Skin sensitizer (Category 1)

DANGER

H318: Causes serious eye damage

H332: Harmful if inhaled

H315: Causes skin irritation

H317: May cause an allergic skin reaction

P261: Avoid breathing vapours and spray.

P264: Wash face, hands and any exposed skin thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves, protective clothing and eye protection.

P302+352: IF ON SKIN: Wash with plenty of water and soap.

P333+313: If skin irritation or a rash occurs: Get medical advice or attention.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312: Call a POISON CENTER or physician if you feel unwell.

P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P310: Immediately call a physician.

P362+364: Take off contaminated clothing and wash before reuse.

P501: Dispose of contents and container to a licensed chemical disposal agency in accordance with local, regional and national regulations.

3. Composition/information on ingredients

Common name	CAS	Weight % content
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	10 - 30 %
Diethylene glycol	111-46-6	5 - 10 %
White mineral oil	8042-47-5	3 - 7 %
Hexahydro-1,3,5-tris(hydroxyethyl)triazine	4719-04-4	3 - 7 %
Triethanolamine	102-71-6	3 - 7 %
Diisopropanolamine	110-97-4	3 - 7 %
Hexylene glycol	107-41-5	1 - 5 %
2-Aminoethanol	141-43-5	1 - 5 %
Sodium 2-mercaptobenzothiazole	2492-26-4	1 - 5 %

Note: The manufacturer withholds the actual concentration range of the ingredients as a trade secret.

4. First-aid measures

Inhalation	Move person to fresh air. If not breathing, give artificial respiration. If a problem develops or persists, seek medical attention.
Skin contact	Wash skin with warm water and mild soap. Remove contaminated clothing and wash before reuse. If a problem develops or persists, seek medical attention.
Eye contact	IMMEDIATELY flush with plenty of water. Remove contact lenses if easy to do. Flush with water for at least 15 minutes. Hold eyelids apart to rinse properly. Seek medical attention immediately.
Ingestion	DO NOT induce vomiting, unless recommended by medical personnel. Never give anything by mouth if victim is unconscious or convulsing. If victim is conscious wash out mouth with water and give small amounts of water to drink. If spontaneous vomiting occurs, keep head below hip level to prevent aspiration into the lungs. Seek medical attention or contact a Poison Centre immediately.
Other	No additional information.
Symptoms	May cause severe eye irritation or eye damage. May cause itching, redness and skin irritation. May cause an allergic reaction of the skin.
Notes to the physician	If gastric lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire-fighting measures

Suitable extinguishing media	Dry chemicals, water fog, chemical foam, carbon dioxide (CO ₂). Do not use a heavy water jet.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Special protective	Firefighters must wear self contained breathing apparatus with full face mask. Firefighting suit may not

equipment	be efficient against chemicals.
Special protective actions for fire-fighters	Use water spray to cool fire-exposed containers. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply.

6. Accidental release measures


Personal precautions, protective equipment and emergency procedures	Do not touch spilled material. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet.
Environmental precautions	Prevent entry into sewers, closed areas and release to the environment. For a large spill, consult the Department of Environment or the relevant authorities.
Methods and materials for containment and cleaning up	Ventilate the area well. Remove sources of ignition. Absorb with inert material (soil, sand, vermiculite) and place in an appropriate waste disposal clearly identified. LARGE SPILL - dike and pump into appropriate container for recovery. Dispose via a licensed waste disposal contractor.

7. Handling and storage

Precautions for safe handling	Use in well ventilated area. Avoid contact with skin, eyes and clothing. Do not breathe vapours, mists or aerosols. Make sure to wear personal protective equipment mentioned in this Safety Data Sheet. Do not eat, do not drink and do not smoke during use. Keep containers tightly closed when not in use. After use, wash hands with soap and water. Wash contaminated clothing before reuse.
Conditions for safe storage, including any incompatibilities	Store tightly close and in properly labelled container. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store away from incompatible materials (see section 10). Keep away from direct sunlight and heat.
Storage temperature	10 to 35°C (50 to 95°F)

8. Exposure controls/personal protection

Immediately Dangerous to Life or Health	2-Aminoethanol: 30 ppm.				
Distillates (petroleum), hydrotreated heavy naphthenic	STEL	Mist		10 mg/m ³	RSST
	TWA (8h)	Mist		1 mg/m ³	BC
Diethylene glycol		Mist		5 mg/m ³	ACGIH , ON, RSST
	TWA (8h)			10 mg/m ³	US AIHA
White mineral oil	STEL	Mist		10 mg/m ³	RSST
	TWA (8h)	Mist		1 mg/m ³	BC
Triethanolamine		Fume		2 mg/m ³	ACGIH
		Mist		5 mg/m ³	ACGIH , ON, RSST
	TWA (8h)	Mist		5 mg/m ³	ACGIH , BC, RSST
Diisopropanolamine		Mist	0.5 ppm	3.1 mg/m ³	ON
	TWA (8h)			10 ppm	Other
2-Aminoethanol	STEL			6 ppm	ACGIH , BC
				6 ppm	ON , RSST
Hexylene glycol	TWA (8h)			3 ppm	ACGIH , BC
				3 ppm	ON , RSST
	Ceiling			25 ppm	ACGIH , ON
				25 ppm	RSST (RP)

Appropriate engineering controls	Provide sufficient mechanical ventilation (general and/or local exhaust) to keep the airborne concentrations of vapours, mists, aerosols or dust below their respective occupational exposure limits.
Individual protection measures	
Eye	Wear chemical splash goggles. If risk of contact with eyes or the face, wear a face shield.
Hands	Wear nitrile or neoprene gloves. Disposable nitrile gloves can also be used, but discard after single use. Before using, user should confirm impermeability. Discard gloves with tears, pinholes, or signs of wear. Gloves must only be worn on clean hands.
Skin	Personal protective equipment for the body should be selected based on the task being performed and the risks involved. Wear normal work clothing covering arms and legs as required by employer code. If necessary, wear an apron or long-sleeve protective coverall suit.
Respiratory	A respirator is not required under normal conditions of use. Where the conditions in the workplace require a respirator, it is necessary to follow a respiratory protection program. Moreover, respiratory protection equipment (RPE) must be selected, fitted, maintained and inspected in accordance with regulations and standard 29 CFR 1910.134 (OSHA), ANSI Z88.2 or CSA Z 94.11 (Canada) and approved by NIOSH/MSHA. In case of insufficient ventilation or in confined or enclosed space and for an assigned protection factor (APF) up to 10 times the exposure limit, wear a half mask respirator with organic vapour cartridges fitted with P100 filters. For an APF until maximum 100 times of exposure limit, wear a full face respirator mask with organic vapour cartridges and P100 filters.
Feet	Wear rubber boots to clean up a spill.
 Apron Goggles Nitrile gloves	

9. Physical and chemical properties

Physical state	Liquid	Flammability	Non-flammable
Colour	Brown	Flammability limits	N/Av.
Odour	Slight odor	Flash point	N/Av.
Odour threshold	N/Av.	Auto-ignition temperature	229 °C (444.2 °F)
pH	9 @ 5%	Sensibility to electrostatic charges	N.Av.
Melting point	N/Av.	Sensibility to sparks and/or friction	N.Det.
Freezing point	N/Av.	Vapour density	N/Av. (Air = 1)
Boiling point	N/Av.	Relative density	1 to 1.1 kg/L (Water = 1)
Solubility	Fully soluble in water.	Partition coefficient n-octanol/water	N/Av.
Evaporation rate	N/Av.	Decomposition temperature	N/Av.
Vapour pressure	N/Av.	Viscosity	N/Av.
Percent Volatile	N/Av.	Molecular mass	N/Av.

N/Av.: Not Available

N/Av.: Not Available

Und.: Undetermined

N/E: Not Established

10. Stability and reactivity

Reactivity	No known dangerous reactions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions (including polymerizations)	Hazardous polymerization will not occur.
Conditions to avoid	Avoid contact with incompatible materials.
Incompatible materials	Strong oxidizing agents (e.g. chlorine, fluorine, nitric acid, perchloric acid, peroxides, nitrates, chlorates, chromates, permanganates and perchlorates).
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Numerical measures of toxicity	Distillates (petroleum), hydrotreated heavy naphthenic	Ingestion >5000 mg/kg	Rat	LD50	
		Inhalation >5 mg/l/4h	Rat	LC50	
		Skin >5000 mg/kg	Rabbit	LD50	
	Diethylene glycol	Ingestion 19600 mg/kg	Rat	LD50	
		Inhalation >4.6 mg/l/4h	Rat	LC50	
		Skin 13330 mg/kg	Rabbit	LD50	
	Diisopropanolamine	Ingestion 4765 mg/kg	Rat	LD50	
		Skin 8000 mg/kg	Rabbit	LD50	
	Hexahydro-1,3,5-tris(hydroxyethyl)triazine	Ingestion 763 mg/kg	Rat	LD50	
		Inhalation 0.371 mg/l/4h	Rat	LC50	
Likely routes of exposure	White mineral oil	Skin >2000 mg/kg	Rabbit	LD50	
		Ingestion >2460 mg/kg	Rat	LD50	
		Inhalation >2.46 mg/l/4h	Rat	LC50	
		Skin >2000 mg/kg	Rabbit	LD50	
	Triethanolamine	Ingestion 8000 mg/kg	Rat	LD50	
		Skin >2000 mg/kg	Rabbit	LD50	
	2-Aminoethanol	Ingestion 1090 mg/kg	Rat	LD50	
		Inhalation >1.3 mg/l/4h	Rat	LC50	
	Hexylene glycol	Skin 1015 mg/kg	Rabbit	LD50	
		Ingestion 3700 mg/kg	Rat	LD50	
Delayed, immediate and chronic effects	Sodium 2-mercaptobenzothiazole	Skin 7892 mg/kg	Rabbit	LD50	
		Ingestion 2100 mg/kg	Rat	LD50	
		Inhalation >82000 mg/m ³ /6h	Rat	LC50	
		Skin >7940 mg/kg	Rabbit	LD50	
	Likely routes of exposure	Skin, eyes, inhalation, ingestion.			
	Eye contact	May cause severe eye irritation or eye damage. Eye Irritation/Corrosion, Rabbit (OECD TG 405): tests performed with each ingredient of this mixture gave from not irritating to corrosive results.			
	Skin contact	May cause itching, redness and skin irritation. Skin Irritation/Corrosion, Rabbit (OECD 404) : tests performed with each ingredient of this mixture gave from not irritating to corrosive results.			
	Inhalation	Harmful if inhaled. Prolonged or excessive exposure may cause headache, drowsiness, nausea, dizziness, respiratory tract irritation.			
	Ingestion	May be harmful if swallowed. Ingestion can cause abdominal pain, nausea, cramps, headache, dizziness, drowsiness and vomiting.			
	Respiratory or skin sensitization	May cause an allergic reaction of the skin. Case studies on humans have indicated that Hexahydro-1,3,5-tris(hydroxyethyl)triazine (CAS no 4719-04-4) is a skin sensitising agent (REACH). Sodium 2-mercaptobenzothiazole (CAS no 2492-26-4) is			


	<p>well known as a skin sensitizer (Guinea pig, OECD Guideline 406). This product is not a respiratory sensitizer.</p> <p>IARC/NTP Classification No ingredients listed.</p> <p>Carcinogenicity Ingredients present at levels greater than or equal to 0.1% of this product are not listed as a carcinogen by IARC, ACGIH, NIOSH, NTP or OSHA.</p> <p>Mutagenicity Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause mutagenic effects.</p> <p>Reproductive toxicity Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause reproduction effects.</p> <p>Specific target organ toxicity - single exposure No target organ is listed.</p> <p>Specific target organ toxicity - repeated exposure No target organ is listed.</p>
Interactive effects	No information available.
Other information	The oral and skin acute toxicity estimates (ATE) of the mixture were calculated to be greater than 2000 mg/kg. These values are not classified according to WHMIS 2015 and OSHA HCS 2012. The acute toxicity estimate (ATE) by inhalation (mists/dusts) of the mixture was calculated to be greater than 1 mg/L/4h but lower than 5 mg/L/4h. This value is classified according to GHS: Acute toxicity, inhalation (Category 4).

12. Ecological information

Ecological toxicity			
Aquatic Invertebrate - Daphnia magna	EC50	>10000 mg/L; 48 h (CAS no 64742-52-5)	
Fish - Pimephales promelas - fathead minnow	LC50	>100 mg/L; 96 h (CAS no 64742-52-5)	
Fish - Fathead minnow, Pimephales promelas - fresh water	LC50	75200 mg/L; 96h (CAS no 111-46-6)	
Aquatic Invertebrate - Daphnia magna	EC50	>10000 mg/L; 96h (CAS no 111-46-6) DIN 38412	
Fish - Oncorhynchus mykiss - Rainbow trout	LC50	>100 mg/L; 96h (CAS no 8042-47-5) OECD 203	
Aquatic Invertebrate - Daphnia Magna (static)	EC50	>100 mg/L; 48h (CAS no 8042-47-5) OECD 202	
Algae, Pseudokirchneriella subcapitata	EC50	<100 mg/L; 72h (CAS no 8042-47-5) OECD 201	
Fish - Danio rerio	LC50	16 mg/L; 96 h (CAS no 4719-04-4) OECD 203	
Aquatic Invertebrate - Daphnia Magna, Water flea (immobilization)	EC50	11.9 mg/L; 48 h (CAS no 4719-04-4) OECD 202	
Aquatic Plant - Algae, Desmodesmus subspicatus	EC50	6.7 mg/L; 72 h (CAS no 4719-04-4) OECD 201	
Fish - Pimephales promelas - Fresh water	LC50	11800 mg/L; 96 h (CAS no 102-71-6)	
Aquatic Plant - Algae, Scenedesmus subspicatus	EC50	169 mg/L; 96 h (CAS no 102-71-6)	
Aquatic Invertebrate - Daphnia Magna, Water flea, fresh water	EC50	1380 mg/L; 24 h (CAS no 102-71-6)	
Fish - Pimephales promelas (fathead minnow)	EC50	580 mg/L; 96 h (CAS no 110-97-4) OECD 203	
Aquatic Invertebrate - Daphnia Magna, Water flea, fresh water	EC50	228 mg/L; 96h (CAS no 110-97-4)	
Green algae - Scenedesmus subspicatus	EC50	339 mg/L; 72 h (CAS no 110-97-4) OECD 201	

	Fish - Pimephales promelas (fathead minnow)	LC50	8690 mg/L; 96h (CAS no 107-41-5) OECD 203
	Aquatic Invertebrate - Daphnia magna (Water flea)	EC50	5410 mg/L; 48 h (CAS no 107-41-5) OECD 202
	Algae, Pseudokirchneriella subcapitata	EC50	429 mg/L; 72 h (CAS no 107-41-5) OECD 201
	Fish - Cyprinus carpio - Carp (semi-static)	LC50	150 mg/L; 96h (CAS no 141-43-5)
	Aquatic Invertebrate - Daphnia magna	EC50	65 mg/L; 48h (CAS no 141-43-5)
	Green Algae - Selenastrum capricornutum	EC50	2.8 mg/L; 72h (CAS no 141-43-5) OECD 201
	Fish - Oncorhynchus mykiss - Rainbow trout	LC50	1.8 mg/L; 96 h (CAS no 2492-26-4)
	Aquatic Invertebrate - Daphnia magna (static)	EC50	0.71 mg/L; 48 h (CAS no 2492-26-4) OECD 202
	Aquatic Plant - Algae, Pseudokirchnerilla subcapitata	ECr50	0.3 mg/L; 96 h (CAS no 2492-26-4)
Persistence	Contains an or many ingredients that may be persistent in the environment.		
Degradability	The product is a mixture of which some ingredients are readily biodegradable (> 60% in 28 days) while other ingredients are not readily biodegradable (<60% in 28 days).		
Bioaccumulative potential	The product is a mixture of which some ingredients have a low bioaccumulation potential (Log Kow of <3 and / or BCF <500) while other ingredients have some potential to bioaccumulate (Log Kow of >3 and / or BCF >500).		
Mobility in soil	The product is a mixture of which some ingredients evaporate very easily from the surface of the soil. Moreover, some ingredients have very high mobility in soil, while other ingredients have moderate to low mobility in soil.		
Other adverse effects	This chemical does not deplete the ozone layer.		

13. Disposal considerations

	Important! Prevent waste generation. Use in full. DO NOT dispose residue in sewers, streams or drinking water supply. Non-use oils or waste oils can be reprocessed (recycle) where there is a recovery program. Dispose via a licensed waste disposal contractor. Observe all federal, state/provincial and municipal regulations. If necessary consult the Department of Environment or the relevant authorities.
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14. Transport information

UN Number	UN N/A
UN Proper Shipping Name	Not regulated by TDG (Canada) and 49 CFR DOT (USA).
Environmental hazards	This material does not contain marine pollutant.
Special precautions for user	No information available for this product.
TDG - Transportation of Dangerous Goods (Canada)	
Transport hazard class(es)	Not regulated
Packing group	Not regulated

IMO/IMDG - International Maritime Transport

Classification Not regulated

IATA - International Air Transport Association

Classification Not regulated

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. In addition, if a domestic exemption exists, it is the responsibility of the shipper to define the application of it.

15. Regulatory information

CANADA

Common name	CAS	CEPA	DSL	NDSL	NPRI
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5		X		
Diethylene glycol	111-46-6		X		
White mineral oil	8042-47-5	X	X		X
Hexahydro-1,3,5-tris(hydroxyethyl)triazine	4719-04-4		X		
Triethanolamine	102-71-6		X		
Diisopropanolamine	110-97-4		X		
Hexylene glycol	107-41-5		X		
2-Aminoethanol	141-43-5		X		
Sodium 2-mercaptobenzothiazole	2492-26-4		X		

- CEPA: List of Toxic Substances Managed Under Canadian Environmental Protection Act
- DSL: Domestic Substances List Inventory
- NDSL: Non-Domestic Substances List Inventory
- NPRI: National Pollutant Release Inventory Substances

UNITED STATE OF AMERICA

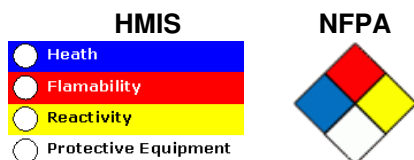
Common name	CAS	TSCA	CER CLA	EPCRA 313	EPCRA 302/304	CAA 112(b) HON	CAA 112(b) HAP	CAA 112(r)	CWA 311	CWA Prio.
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	X								
Diethylene glycol	111-46-6	X				X				
White mineral oil	8042-47-5	X								
Hexahydro-1,3,5-tris(hydroxyethyl)triazine	4719-04-4	X								
Triethanolamine	102-71-6	X				X				
Diisopropanolamine	110-97-4	X								
Hexylene glycol	107-41-5	X								
2-Aminoethanol	141-43-5	X				X				
Sodium 2-mercaptobenzothiazole	2492-26-4	X								

- TSCA: Toxic Substance Control Act
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act list of hazardous substances
- EPCRA 313: Emergency Planning and Community Right-to-Know Act, Section 313 Toxic Chemicals
- EPCRA 302/304: Emergency Planning and Community Right-to-Know Act, Section 302/304 Extremely Hazardous Substances
- CAA 112(b) HON: Clean Air Act - Hazardous Organic National Emission Standard for Hazardous Air Pollutant
- CAA 112(b) HAP: Clean Air Act - Hazardous Air Pollutants lists pollutants
- CAA 112(r): Clean Air Act - Regulated Chemicals for Accidental Release Prevention
- CWA 311: Clean Water Act - List of Hazardous Substances
- CWA Priority: Clean Water Act - Priority Pollutant list

California Proposition 65

No ingredients listed.

Other regulations



16. Other information

Date (YYYY-MM-DD)

AEROCHEM Inc. 2020-03-03

Version

03

Other information

REFERENCES:

- Haz-Map, Information on Hazardous Chemicals and Occupational Diseases, <https://haz-map.com/>
- Service du répertoire toxicologique de la Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST), <http://www.reptox.csst.qc.ca>
- The National Center for Biotechnology Information, National Institutes of Health (NIH), U.S. National Library of Medicine, <https://pubchem.ncbi.nlm.nih.gov/>
- NIOSH Pocket Guide to Chemical Hazards, Centers for Disease Control and Prevention, NIOSH Publications, 2007, <http://www.cdc.gov/niosh/npg/npg.html>

DATE OF FIRST VERSION OF SDS:

2017-09-22.

CHANGES MADE IN THE VERSION 02:

section 3.

DATE OF SECOND VERSION OF SDS:

2019-07-31.

CHANGES MADE IN THE VERSION 03:

section 1.

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

HMIS: Hazardous Materials Identification System

NFPA: National Fire Protection Association

OSHA: Occupational Safety and Health Administration (USA)

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

RSST: Règlement sur la santé et la sécurité du travail (Québec)

GHS: Globally Harmonized System

IARC: International Agency for Research on Cancer

IDLH: Immediately Dangerous to Life or Health

STEL: Short Term Exposure Limit (15 min)

TWA: Time Weighted Averages

WHMIS: Workplace Hazardous Materials Information System

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