

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 040114
Product Name: OP-T-Con CS-3001
Category: Clay Control
Company Name: OptiFrac Chemical Services
 1000, 639 -5th Avenue SW
 Calgary, AB T2P 0M9
Phone Number: (403)237-8900
Emergency Contact: 24 hour Emergency #: (CANUTEC) (613)996-6666

2. HAZARDS IDENTIFICATION

Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2A
Specific Target Organ Toxicity (single exposure), Category 3



GHS Signal Word: **Warning**

GHS Hazard Phrases: H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H335 - May cause respiratory irritation.

GHS Precaution Phrases: P264 - Wash hands thoroughly after handling.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
 P271 - Use only outdoors or in a well-ventilated area.
 P362+364 - Take off contaminated clothing and wash it before reuse.

GHS Response Phrases: P302+352 - IF ON SKIN: Wash with plenty of soap and water.
 P332+313 - If skin irritation occurs, get medical advice/attention.
 P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+313 - If eye irritation persists, get medical advice/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/doctor if you feel unwell.

GHS Storage and Disposal Phrases: P403+233 - Store container tightly closed in well-ventilated place.
 P405 - Store locked up.
 P501 - Dispose of contents/container to an approved waste disposal plant.

Hazard Rating System:

HEALTH	2
FLAMMABILITY	0
PHYSICAL	0
PPE	B

HMIS:



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Potential Health Effects (Acute and Chronic): Chronic: May cause liver and kidney damage. Repeated exposure may cause damage to the spleen. Laboratory experiments have shown mutagenic effects. Chronic exposure may cause blood effects. Exposure to high concentrations may cause central nervous system depression.

Inhalation: Causes respiratory tract irritation. May be harmful if inhaled.

Skin Contact: Causes skin irritation. May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Ingredient(s)	Concentration
67-48-1	Choline chloride	50.0 -80.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

In Case of Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Seek medical advice/attention immediately.

In Case of Skin Contact: Wash exposed area with soap and water thoroughly. Remove contaminated clothing and wash before reuse. Seek medical advice/attention if irritation develops or persists.

In Case of Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Remove contact lenses if present after the first 5 minutes. Seek medical advice/attention if irritation develops or persists.

In Case of Ingestion: Rinse mouth with water. Do NOT induce vomiting. Never give anything to an unconscious person. Seek medical advice/attention if you feel unwell.

Note to Physician: Based on the individual reactions of the patient, the physician's judgment should be used to treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flash Pt: NP Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: NP

Suitable Extinguishing Media: Product is not flammable under normal conditions. Use extinguishing media suitable for source of the fire. Use water spray to cool the containers exposed to the fire.

Fire Fighting Instructions: No specific measures required. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Flammable Properties and Hazards: Product is not combustible. Heating could cause decomposition of the product and expansion that could lead to rupture of the container.



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6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: No specific precautions necessary. Wear appropriate personal protection equipment.

Environmental Precautions: No specific precautions necessary. Observe local and federal regulations.

Steps To Be Taken In Case Material Is Released Or Spilled: Collect liquid by absorbing with an inert material (e.g. vermiculite, dry sand, earth), clean contaminated surface thoroughly, and place in a container for disposal according to local regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Avoid prolonged or repeated contact with eyes, skin, or clothing. Wash thoroughly after handling. Avoid breathing product vapors or mists. Use with adequate ventilation. Keep containers closed when not in use.

Precautions To Be Taken in Storing: Store in a dry, cool, and well ventilated area away from heat sources and incompatible materials. Keep containers securely sealed. Protect containers from physical damage and check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Components (Chemical Name)	OSHA TWA	ACGIH TWA	Other Limits
67-48-1	Choline chloride	No data.	No data.	No data.

Respiratory Equipment (Specify Type): No Specific requirements. A risk assessment should be made to determine if respiratory protection is necessary.

Eye Protection: Safety glasses with side shields.

Protective Gloves: Wear appropriate impermeable gloves.

Other Protective Clothing: No Specific requirements. A risk assessment should be made to determine if additional skin protection is necessary.

Engineering Controls (Ventilation etc.): Use local and/or general exhaust ventilation to maintain airborne concentrations below irritating levels or airborne exposure limits, whichever is lower. Local exhaust is generally preferred because it can control the emission of the contaminant at its source, preventing dispersion of it into the general work area.

Work/Hygienic/Maintenance Practices: An eye wash station should be accessible in the immediate area of use. 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. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[] Gas [] Liquid [X] Solid	
Appearance and Odor:	Clear. Mild Odor.	
Freeze Point/Pour Point:	< -40.00 F (-40.0 C)	
Boiling Point:	> 210.00 F (98.9 C)	
Autoignition Pt:	NP	
Flash Pt:	NP Method Used: Estimate	
Explosive Limits:	LEL: No data.	UEL: No data.
Specific Gravity (Water = 1):	1.103+/-0.05	
Vapor Pressure (vs. Air or mm Hg):	5 MM_HG at 100.0 F (37.8 C)	
Vapor Density (vs. Air = 1):	>1 (Air = 1.0)	
Evaporation Rate:	No data.	
Solubility in Water:	No data.	
Viscosity:	< 100 cPs	
pH:	6.5 - 8.0	
Percent Volatile:	No data.	

10. STABILITY AND REACTIVITY

Reactivity:	Under normal conditions of storage and use, hazardous reactions will not occur.
Stability:	
Conditions To Avoid - Instability:	Unstable [] Stable [X] Excess heat.
Incompatibility - Materials To Avoid:	
Hazardous Decomposition or Byproducts:	Reactive or incompatible with the following materials: Strong acids, Strong bases, Mild or Galvanized Steel.
Possibility of Hazardous Reactions:	Decomposition by fire may produce the following hazardous gases and vapors: Carbon oxides, oxides of nitrogen, chlorine.
Conditions To Avoid - Hazardous Reactions:	Will occur [] Will not occur [X] No data available.



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11. TOXICOLOGICAL INFORMATION

Toxicological Information: Epidemiology: No information found.
 Teratogenicity: No information available. Reproductive Effects: Mutagenicity: Mutagenic effects have occurred in experimental animals.
 Neurotoxicity:
 CAS# 67-48-1:
Carcinogenicity/Other Information: Acute toxicity, LD50, Oral, Rat, 3400. MG/KG.
 Result:
 Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Chromodacryorrhea.
 Behavioral: Excitement.
 Lungs, Thorax, or Respiration: Respiratory depression.
 - Proceedings of the Society for Experimental Biology and Medicine., Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 58,87, 1945
 CAS# 67-48-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Ingredient(s)	NTP	IARC	ACGIH	OSHA
67-48-1	Choline chloride	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

General Ecological Information: Environmental: No information available.
 Physical: No information available.
 Other: Do not empty into drains.

Results of PBT and vPvB assessment: CAS# 67-48-1:
 Effective concentration to 50% of test organisms., Water Flea (Daphnia magna), 320.0 MG/L, 48 H, Intoxication., Water temperature: 20.00 C C, pH: 8.20, Hardness: ~210.00 MG/L.
 Result:
 Age Effects.
 - Aquatic Toxicity of Compounds that may be Carried by Ships (Marpol 19733 Annex II). A Progress Report for 1985, Adema, D.M.M., 1985

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
 RCRA P-Series: None listed.
 RCRA U-Series: None listed.

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14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.

DOT Hazard Class:

UN/NA Number:

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: Not Regulated.

UN Number:

Hazard Class:

TDG Classification:

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated.

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Ingredient(s)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
67-48-1	Choline chloride	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Acute (immediate) Health Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Chronic (delayed) Health Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Fire Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sudden Release of Pressure Hazard
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Reactive Hazard

CAS #	Ingredient(s)	Canadian NPRI	Canadian IDL	Canadian DSL
67-48-1	Choline chloride	No	No	Yes

Other US EPA or State Lists

CAA HAP, ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

International Regulatory Lists

Canadian WHMIS Classification:



CLASS D, DIVISION 2, SUBDIVISION B: Toxic Materials (Mutagenicity, skin sensitization, irritation, etc.)



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16. OTHER INFORMATION

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Additional Information About No data available.

This Product:

Company Policy or

Disclaimer:

The information accumulated herein is believed to be accurate based on the information provided, although no guarantee or warranty, either expressed or implied is made as to the accuracy or completeness of this information, whether originating with this company or not. Recipients are advised to confirm in advance of need that the information is correct, applicable and suitable to their circumstances. The conditions or methods of handling, storage, use and disposal of the product and container are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage or use of this information or product. If the product is used as a component in another product, this information may not be applicable.