SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

B3/B3C

Section 1. Product and company identification

B3/B3C Product name Chemical name Not available

Clear Silicone **Description**

Manufacturer/Importer/ The Berkebile Oil Company **Distributor Information** 1216 Red Brant Road Somerset, PA 15501

Contact person info@berkebileoil.com

: 814-443-1656 **Telephone** 814-443-2873 Fax

Emergency telephone number

CHEMTREC Supplier

1-800-424-9300

Section 2. Hazards identification

Classification of the substance or

mixture

SKIN CORROSION/IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2

GHS label elements

Hazard pictograms Signal word

Warning

Hazard statements H315 Causes skin irritation.

H361f Suspected of damaging fertility.

Precautionary statements

Not applicable. General

Prevention Obtain special instructions before use.

Do not handle until all safety precautions have been read and

understood.

Use personal protective equipment as required.

Wear protective gloves.

Wash hands thoroughly after handling.

Response IF exposed or concerned:

Get medical attention.

IF ON SKIN:

Wash with plenty of soap and water.

Take off contaminated clothing.

Wash contaminated clothing before reuse.

If skin irritation occurs: Get medical attention.

Storage : Store locked up.

Disposal : P501 Dispose of contents and container in accordance with all local,

regional, national and international regulations.

Other hazards which do not result in classification

: Uncured product is irritating to eyes, skin, and respiratory system. Generates acetic acid during cure. Uncured product is irritating to eyes, skin, and respiratory system. Generates acetic acid during

Section 3. Composition/information on ingredients

Substance/mixture : Mixture **Chemical name** : Not available

Hazardous ingredients	% by weight	CAS
		number
Silanetriol, 1-methyl-, 1,1,1-triacetate	1 - 5	4253-34-3
Octamethylcyclotetrasiloxane	0.1 - 1	556-67-2

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 10 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable

for breathing. 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. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such

as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10

minutes. Get medical attention. Wash clothing before reuse. Clean

shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove

victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery

position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

Protection of first aid personnel No action shall be taken involving any personal risk or without suitable training. 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 dry chemical, CO₂, alcohol-resistant foam or water spray (fog). Unsuitable extinguishing media water jet

Specific hazards arising from the chemical

No specific fire or explosion hazard.

Hazardous thermal decomposition products Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

Special protective actions for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and selfcontained 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

No action shall be taken involving any personal risk or without For non-emergency personnel

> suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on

appropriate personal protective equipment.

If specialized clothing is required to deal with the spillage, take note For emergency responders 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).

Methods and material for containment and cleaning up

Small spill

Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Large spill

Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see section 8 of SDS). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. 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.

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 of SDS) and food and drink. Store locked up. 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

Ingredient name	Exposure limits
Octamethylcyclotetrasiloxane	() Recommended exposure limit (REL): 5 ppm
Appropriate engineering controls :	If user operations generate dust, fumes, gas, vapor or mist, 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. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be

necessary to reduce emissions to acceptable levels.

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: chemical splash goggles.

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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

: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state: PasteColor: colorless.

Odor : Acetic acid.
Odor threshold : Not available
pH : Not applicable.

Melting point: Not availableBoiling point: Not available

Flash point : 93 °C (199.40 °F) (Estimated.)

Burning time:Not availableBurning rate:Not availableEvaporation rate:Not availableFlammability (solid, gas):Not available

Lower and upper explosive

(flammable) limits

Lower: Not applicable. Upper: Not applicable.

Vapor pressure : Not applicable.

Vapor density : Not available

Relative density : 1.04

Density : 1.04 g/cm3

Solubility : Insoluble

Solubility in water : Insoluble

Partition coefficient: n-

octanol/water

: Not available

Auto-ignition temperature: Not availableDecomposition temperature: Not availableSADT: Not available

Viscosity : Dynamic: Not available Kinematic: Not available

Volatile organic content : 3.1 % (w/w)

36 g/l

Other information

No additional information.

Section 10. Stability and reactivity

Reactivity : Stable under normal conditions.

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 : No specific data.

Hazardous decomposition : Under normal conditions of storage and use, hazardous

products decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure			
Octamethylcyclotetrasiloxane							
	LD50 Oral	Rat	4,800 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)	-			
	LC50 Inhalation	Rat	> 12.1 mg/l	4 h			
	LC50	Rat	36 mg/l OECD	4 h			

Inhalat	ion	Test Guideline 403	
LD50	Dermal Rat	> 2,400 mg/kg	-
		OECD Test Guideline 402	

Conclusion/Summary : Not determined

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
CRTV 1488 Remarks:	Skin - Moderate irritant OECD- Guideline 404 (Acute Dermal Irritation/C orrosion) Classification	Rabbit according to	test study da	ta of a similar pro	- oduct.
Remarks:	eyes - Mild irritant OECD- Guideline 405 (Acute Eye Irritation/C orrosion)	Rabbit	toot study do	ta of a similar pro	-
Kemai ks.	Classification	according to	test study do	ua or a siiiiiai piv	oduct.
Octamethylcyclotetrasiloxane	Skin OECD- Guideline 404 (Acute Dermal Irritation/C orrosion)	Rat			-
Remarks:	Non-irritating to the skin.				
Da ver la ve	eyes OECD- Guideline 405 (Acute Eye Irritation/C orrosion)	Rabbit			-
Remarks:	Non-irritating	g to the eyes.			

Conclusion/Summary

Skin: Moderate irritanteyes: Mild irritantRespiratory: Not determined

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Octamethylcyclotetrasiloxane	-	Guinea pig	Not sensitizing OECD- Guideline 406 (Skin

Sensitisation)

Conclusion/Summary

Skin : Not determined Respiratory : Not determined

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Octamethylcyclotetrasiloxane	OECD-Guideline 471 (Genetic	In vitro	Negative
	Toxicology: Salmonella		
	typhimurium, Reverse		
	Mutation Assay)		
	Mouse Lymphoma Assay	In vitro	Negative
	(OECD Guidline 476)		
	OECD-Guideline 474 (Genetic	In vivo	Negative
	Toxicology: Micronucleus		
	Test)		

Conclusion/Summary : Not determined

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	Inhalation -	Rat - Female	150 mg/kg	24 months
	OECD 453			
Remarks:	NOAEC			
	Inhalation - OECD 453	Rat - Male	> 700 mg/kg	24 months
Remarks:	NOAEC			

Conclusion/Summary : Not determined

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Octamethylcyclotetrasi loxane	1	-	-	Rat	Inhalation: 300 mg/kg OECD 416	-
Remarks:	NOAEL parents					
	-	-	-	Rat	Inhalation: 300 mg/kg OECD 416	-
Remarks:	NOAEL F1					

Conclusion/Summary : Not determined

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	- Inhalation	Rabbit	500 mg/kg	18 days
	OECD Test			
	Guideline 414			
Remarks:	NOAEL			
	- Inhalation	Rabbit	300 mg/kg	18 days
	OECD Test			
	Guideline 414			
Remarks:	NOAEL maternity			

Conclusion/Summary : Not determined

Specific target organ toxicity (single exposure)

Product/ingredient name Category	Route of exposure	Target organs
----------------------------------	-------------------	---------------

Silanetriol, 1-methyl-, 1,1,1-	Category 3	Respiratory tract irritation
triacetate		

Specific target organ toxicity (repeated exposure)

Not available

Aspiration hazard

Not available

Information on the likely routes of : Not available

exposure

Potential acute health effects

Eve contact Causes serious eye irritation.

Inhalation No known significant effects or critical hazards.

Skin contact Causes skin irritation.

Ingestion Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact Adverse symptoms may include the following:

pain or irritation

watering redness

Inhalation Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Skin contact Adverse symptoms may include the following:

> irritation redness

reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion Adverse symptoms may include the following:

> reduced fetal weight increase in fetal deaths skeletal malformations

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

Short term exposure

Not available **Potential immediate effects** Potential delayed effects Not available

Long term exposure

Potential immediate effects Not available Not available Potential delayed effects

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxa	NOAEC	Rat	150 mg/kg	24 months
ne	Inhalation		OECD 453	
Remarks:	NOAEC			
	NOAEL	Rabbit	> 1 mg/kg	3 weeks

	Dermal	OECD 410	
Remarks:	NOAEL		

Conclusion/Summary : Not determined

General: No known significant effects or critical hazards.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 : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value	
Oral	12,402.5 mg/kg	

Other information

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/kg/day,14 days), developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. This response in rats, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation), with D4. Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level--a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. Therefore, this observed effect does not indicate a potential health hazard to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

Section 12. Ecological information

Ecotoxicity

Conclusion/Summary : Not available

Persistence/degradability

Product/ingredient	Test	Result	Dose	Inoculum

name				
octamethylcyclotetrasil oxane	310 Ready Biodegradability - CO ₂ in Sealed Vessels (Headspace Test)	3.7 % - 29 d		Activated sludge
Remarks:	Not readily biodegr	adable.	ı	1

Conclusion/Summary : Not available

Bioaccumulative potential

Product/ingredient name	Species	Exposure	LogPow	BCF	Potential
Octamethylcyclotetrasiloxane	Fathead	28 d		12.40	low
	minnow				

Mobility in soil

Soil/water partition coefficient

(KOC)

Other adverse effects

Not available

: No known significant effects or critical hazards.

Other information

Octamethylcyclotetrasiloxane (D4) meets the current REACh Annex XIII criteria for PBT and vPvB. However, D4 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

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 at all times 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 emptied 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

Special precautions for user

This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. Regulatory information

United States

U.S. Federal regulations : United States - TSCA 12(b) - Chemical export notification: None

required.

United States - TSCA 5(a)2 - Final significant new use rules: Not

listed

United States - TSCA 5(e) - Substances consent order: Not listed United States - TSCA 5(a)2 - Proposed significant new use rules:

Not listed

SARA 311/312

Classification : Immediate (acute) health hazard

Delayed (chronic) health hazard

California Prop. 65: None required.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).

Class D-2B: Material causing other toxic effects (Toxic).

International regulations

International lists : Australia inventory (AICS): All components are listed or exempted.

Canada inventory: At least one component is not listed in DSL but all such

components are listed in NDSL.

China inventory (IECSC): All components are listed or exempted.

Korea inventory: All components are listed or exempted. New Zealand Inventory (NZIoC): Not determined.

Philippines inventory (PICCS): All components are listed or exempted. United States inventory (TSCA 8b): All components are listed or exempted.

Japan inventory: All components are listed or exempted.

Taiwan inventory (CSNN): All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System III (U.S.A.):

	(- 1 - 1 - 1) •
Health	1
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Full text of abbreviated H : Not applicable.

statements

History

Date of printing: 05/04/2015Date of issue/Date of revision: 04/10/2015Date of previous issue: 00/00/0000

Version : 1.0

 Prepared by
 : Product Safety Stewardship

 Key to abbreviations
 : ATE = Acute Toxicity Estimate

 BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods

by Rail

UN = United Nations
Not available

Notice to reader

References

Unless otherwise specified in section 1, Berkebile Oil products are intended for industrial application only. They are not intended for specific medical applications, neither for long-lasting (> 30 days) implantation into the human body, injected or directly ingested, nor for the manufacture of multiple usable contraceptives Keep out of the reach of children.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.