

SAFETY DATA SHEET 4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecapentaenoic

Acid methyl ester

Revision: 05/18/2016

Multi-region format

1	Section 1				
1	JCCII011 1.	Identification of the Substance/Mixture and of the	e Company/Undertaking		
	Product Code:19472Product Name:4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecapentaenoic Acid methyl esterSynonyms:4(Z),7(Z),10(Z),13(Z),16(Z)-nonadecapentaenoic acid, methyl ester;				
.2	Relevant identified uses of	of the substance or mixture and uses advised aga	inst:		
	Relevant identified uses	For research use only, not for human or veterina	ary use.		
.3	Details of the Supplier of	the Safety Data Sheet:			
	Company Name:	Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108			
	Web site address:	www.caymanchem.com			
	Information:	Cayman Chemical Company	+1 (734)971-3335		
.4	Emergency telephone nui	mber:			
	Emergency Contact:	CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887		
		Section 2. Hazards Identifica	ition		
	GHS Signal Word:	Danger			
	GHS Hazard Phrases:	-			
	GHS Hazard Phrases: H225: Highly flammable I	iquid and vapor.			
	GHS Hazard Phrases: H225: Highly flammable I GHS Precaution Phrase	iquid and vapor.			
	GHS Hazard Phrases: H225: Highly flammable I GHS Precaution Phrase P210: Keep away from {h	iquid and vapor. s:	n}.		
	GHS Hazard Phrases: H225: Highly flammable I GHS Precaution Phrase P210: Keep away from {h P280: Wear {protective g GHS Response Phrases	iquid and vapor. • s: •eat/sparks/open flames/hot surfaces} No smoking. •loves/protective clothing/eye protection/face protectio			
	GHS Hazard Phrases: H225: Highly flammable I GHS Precaution Phrase P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI	iquid and vapor. s: leat/sparks/open flames/hot surfaces} No smoking. loves/protective clothing/eye protection/face protectio s: KIN (or hair): Remove/take off immediately all contam			
	GHS Hazard Phrases: H225: Highly flammable I GHS Precaution Phrase P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo	iquid and vapor. s: leat/sparks/open flames/hot surfaces} No smoking. loves/protective clothing/eye protection/face protectio s: KIN (or hair): Remove/take off immediately all contam			
.3	GHS Hazard Phrases: H225: Highly flammable I GHS Precaution Phrase P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo	iquid and vapor. s: leat/sparks/open flames/hot surfaces} No smoking. loves/protective clothing/eye protection/face protectio s: KIN (or hair): Remove/take off immediately all contam bsal Phrases:	ninated clothing. Rinse skin with s and upper respiratory tract. orption.		



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Acid methyl ester Section 3. Composition/Information on Ingredients CAS #/ Hazardous Components (Chemical Name)/ Concentration EC No./ **GHS Classification RTECS # REACH Registration No.** EC Index No. 136156-13-3 4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecapentaenoic 0.1 % NA No data available. Acid NA NA 64-17-5 Ethyl alcohol 99.9 % 200-578-6 Flam. Liq. 2: H225 KQ6300000 603-002-00-5 Section 4. First Aid Measures 4.1 **Description of First Aid** Measures: In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention. In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined In Case of Eye Contact: and tested by medical personnel. Wash out mouth with water provided person is conscious. Never give anything by mouth to an In Case of Ingestion: unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel. 4.2 Important Symptoms and May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects. Effects, Both Acute and **Delayed:** Section 5. Fire Fighting Measures 5.1 Suitable Extinguishing Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers. Media: Unsuitable Extinguishing A solid water stream may be inefficient. Media: 5.2 Flammable Properties andCan release vapors that form explosive mixtures at temperatures at or above the flashpoint. Container explosion may occur under fire conditions. Hazards: Emits toxic fumes under fire conditions. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back. No data available. Flash Pt: 14.00 C Method Used: Closed Cup **Explosive Limits:** LEL: 3.3% at 25.0 C at 25.0 C UEL: 19.0% **Autoignition Pt:** 363.00 C 5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in ethanol.



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Cay	man	Acid methyl ester
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid breathing vapors and provide adequate ventilation.
	Protective Equipment and	As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,
	Emergency Procedures:	and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
6.2	Environmental	Take steps to avoid release into the environment, if safe to do so.
	Precautions:	
6.3	Methods and Material For	Contain spill and collect, as appropriate.
	Containment and Cleaning	${f g}$ Transfer to a chemical waste container for disposal in accordance with local regulations.
	Up:	
		Section 7. Handling and Storage
7.1	Precautions To Be Taken	Avoid breathing dust/fume/gas/mist/vapours/spray.
	in Handling:	Avoid prolonged or repeated exposure.
		Keep away from sources of ignition.
		Take precautionary measures against static discharge.
7.2	Precautions To Be Taken	Keep away from heat, sparks, and flame.
	in Storing:	Keep container tightly closed.
		Store in accordance with information listed on the product insert.
	Other Precautions:	Hygroscopic.
	Sect	ion 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
136156-13-3	4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecap entaenoic Acid	No data.	No data.	No data.
64-17-5	Ethyl alcohol	TWA: 1920 mg/m3 (1000 ppm) STEL: ()	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
136156-13-3	4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecap entaenoic Acid	No data.	No data.	No data.
64-17-5	Ethyl alcohol	PEL: 1000 ppm	TLV: 1000 ppm	No data.

8.2 Exposure Controls:

 8.2.1 Engineering Controls
 Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne

 (Ventilation etc.):
 levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing	g:Lab coat
Respiratory Equipment	NIOSH approved respirator, as conditions warrant.
(Specify Type):	
Work/Hygienic/Maintena	n Do not take internally.
ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
	Wash thoroughly after handling.
	No data available.



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	Sec	tion 9. Physical and Chemical Properties	
9.1 Information on Basic Physical and Chemical Properties			
	Physical States:	[]Gas [X]Liquid []Solid	
	Appearance and Odor:	A solution in ethanol	
	Melting Point:	No data.	
	Boiling Point:	No data.	
	Flash Pt:	14.00 C Method Used: Closed Cup	
	Evaporation Rate:	No data.	
	Flammability (solid, gas):	No data available.	
	Explosive Limits:	LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C	
	Vapor Pressure (vs. Air or m	1m 43 MM_HG at 20.0 C	
	Hg):		
	Vapor Density (vs. Air = 1):	No data.	
	Specific Gravity (Water = 1):	No data.	
	Solubility in Water:	No data.	
	Autoignition Pt:	363.00 C	
9.2	Other Information		
	Percent Volatile:	No data.	
	Molecular Formula & Weight	t: C20H30O2 302.5	
		Section 10. Stability and Reactivity	
10.1	Reactivity: No	o data available.	
10.2	Stability: U	nstable [] Stable [X]	
10.3	Stability Note(s): St	table if stored in accordance with information listed on the product insert.	
	Polymerization: W	/ill occur [] Will not occur [X]	
10.4	Conditions To Avoid: he	eat, flames and sparks	
10.5	Incompatibility - Materials all	kali metals	
	To Avoid: ar	nmonia	
	pe	eroxides	
	st	rong oxidizing agents	
10.6	Hazardous ca	arbon dioxide	
	Decomposition or ca	arbon monoxide	
	Byproducts:		
1			



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Toxicological Effects: Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 r (rabit): 7.060 mg/kg; Oral LDS0 (mouse): 3.450 mg/kg; Oral LDS0 (mouse): 10.5 (rabit): 6.300 mg/kg; Oral LDS0 (mouse): 2.450 mg/kg; Oral LDS0 (mouse): 10.5 (rabit): 6.300 mg/kg; Oral LDS0 (mouse): 2.500 mg/m3 (20%): Inhalation TCLO (mouse): 2.500 mg/m3 (20%): Inhalation TCLO (mouse): 2.500 mg/m3 (20%): Inhalation TCLO (mouse): 2.300 ppm (7h): Ethanol - Irritation Data: Eyes (rabbit): 500 mg (244) ml/d; Skin (rabbit): 20 mg (Chronic Toxicological Ethanol - Investigated as a mutagen, reproductive effector, and tumorigen. Ethacs: Effects: Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is See actual entry in RTECS for complete information. Ethacol Number: Kq6300000 Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No CAS # Hazardous Components (Chemical Name) NTP IARC ACGH 136156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a. n.a. 136156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a.	Section 11. Toxicological Information Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied. Effences: Toxicological Effects: Effences: Effences: The toxicological effects of this product have not been thoroughly studied. Effects: Contample 1000 (man): 6500 mg/kg; Oral LD50 (mabil): 6.300 mg/kg; Inhalation LC50 (rai): 20.000 ppm (10h): Inhalation TCLO (human): 1.800 ppm (30m); Inhalation TCLO (human): 2.500 mg/m3 (20m); Inhalation LC50 (rai): 5.900 mg/m3 (6h); Inhalation LCLO (mouse): 2.930 ppm (7h); Effence I - Infration Data: Eyes (rabbil): 500 mg (24h) mild: 5kin (rabbil): 20 mg (24h) moderate; Chronic Toxicological Effects: Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Effects: Effects: N IP? No IARC Monographs? No OSHA Regulated? No S# Hazardous Components (Chemical Name) NTP I AA n.a. 1366-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a. n.a. 147-5 Effyl alcohol n.a. n.a. n.a. n.a. 156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a. n.a. 164-15-5 Effects: No data available. No data availabl	arman	4(L), /(L), 10(L), 13(L), 13		арептает	Revis	ion: 05/18/201	
11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied. 11.1 Information on Toxicological Effects: Ethanol - Toxicity Data: Oral TDE0 (man): 1.14 mtkg; Oral TDE0 (mouse): 10.5 (rab): 6.300 mg/kg; Inhalation LCS0 (rab): 20,000 ppm (10h); Inhalation TCL0 (ppm (30m); Inhalation TCL0 (furanz): 2.500 mg/mg; Inhalation LCS0 (rab): 10.500 mg/mg; Inhalation LCL0 (mouse): 29,300 ppm (7h); Ethanol - Invitation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg Chronic Toxicological Effects: Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is See actual entry in RTECS for complete information. Ethanol RTECS Number: KQ6300000 Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No CAS # Hazardous Components (Chemical Name) NTP IARC ACGIF 136156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a. n.a. 14.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. 12.2 12.1 Toxicity: No data available. Degradability: 12.3 Diaccumulative No data available. 1 A4 12.2 Persistence and No data available. No data available. 1 1 1 12.3 Diaccumulative No data av	Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied. Ethanol - Toxicoly Date: Oral IDS0 (man): 1.14 m/lkg: Oral IDS0 (man): 650 mg/kg; Oral LDS6 (mabit): 6,300 mg/kg; Oral LDS6 (mabit): 6,300 mg/kg; Oral LDS6 (mabit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30h); Inhalation TCLO (human): 2,300 pg/kg; Inhalation LC50 (rat): 5,900 mg/m3 (20h); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LC50 (rat): 5,900 mg/m3 (20h); Inhalation LC50 (rat): 5,900 mg/m3 (20h); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LC50 (rat): 5,900 mg/m3 (20h); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LC50 (rat): 5,900 mg/m3 (20h); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LC50 (rat): 5,900 mg/m3 (20h); Inhalation LC50 (rat): 5,000 mg/m3 (Inhalation LC50 (rat): 5,000 mg/m3 (Inhalation LC50 (rat): 5,000 mg/m3 (Inhalatin); Inhalation LC50 (rat): 5,000 mg/m3 (Inhalation LC50	CHEMICAL		5				
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Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No CAS # Hazardous Components (Chemical Name) NTP IARC ACGIN 136156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a. </td <td>Beinogenicity: NTP? No IARC Monograph? No OSHA Regulated? No 34 Hazardous Components (Chemical Name) NTP IARC ACGIH OSHA 3156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. N.a.</td> <td>Toxicological Effects: Chronic Toxicological</td> <td colspan="3"> Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m3 (20m); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LCLO (mouse): 29,300 ppm (7h); Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate; Ethanol - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. </td>	Beinogenicity: NTP? No IARC Monograph? No OSHA Regulated? No 34 Hazardous Components (Chemical Name) NTP IARC ACGIH OSHA 3156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a.	Toxicological Effects: Chronic Toxicological	 Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m3 (20m); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LCLO (mouse): 29,300 ppm (7h); Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate; Ethanol - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. 					
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136156-13-3 4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecapentaenoic Acid n.a. n	5156-13-3 4(2),7(2),10(2),13(2),16(2)-Nonadecapentaenoic Acid n.a. n.a		<u> </u>		-			
64-17-5 Ethyl alcohol n.a. 1 A4 Section 12. Ecological Information 12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. 12.2 Persistence and No data available. Degradability: 12.3 Bioaccumulative No data available. Potential: 12.4 Mobility in Soil: No data available. Section 13. Disposal Considerations 12.6 Other adverse effects: No data available. Section 13. Disposal Considerations 13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations. Section 14. Transport Information 14.1 LAND TRANSPORT (US DOT): DOT Proper Shipping Name: Ethyl Alcohol Solution DOT Hazard Class: 3 FLAMMABLE LIQUID UN/NA Number: 1170 Packing Group: 14.1 LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: Ethyl Alcohol Solution	Start 7.5 Ethyl alcohol n.a. 1 A4 n.a. Section 12. Ecological Information Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. Persistence and No data available. Degradability: No data available. No data available. Potential: No data available. No data available. Mobility in Soil: No data available. Section 13. Disposal Considerations Section 13. Disposal Considerations Waste Disposal Method: Dispose in accordance with local, state, and federal regulations. Section 14. Transport Information I LAND TRANSPORT (US DOT): Dispose in accordance with local, state, and federal regulations. Dispose I fet/ Alcohol Solution Dot Hazard Class: 3 FLAMMABLE LIQUID UN/NA Number: Intro Packing Group: II Autor RANSPORT (European ADR/RID): ADR/RID Shipping Name: Ethyl Alcohol Solution Intro Packing Group: II							
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12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. 12.2 Persistence and Degradability: No data available. 12.3 Bioaccumulative Potential: No data available. 12.4 Mobility in Soil: No data available. 12.5 Results of PBT and vPvB No data available. 12.6 Other adverse effects: No data available. 12.6 Other adverse effects: No data available. 13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations. 13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations. 14.1 LAND TRANSPORT (US DOT): DOT Proper Shipping Name: Ethyl Alcohol Solution DOT Hazard Class: 3 FLAMMABLE LIQUID UN/NA Number: 1170 Packing Group: 14.1 LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: Ethyl Alcohol Solution	Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. Persistence and No data available. Degradability: Bioaccumulative No data available. Potential: Mobility in Soil: No data available. Parsistence and verse No data available. Potential: No data available. Mobility in Soil: No data available. assessment: Other adverse effects: Other adverse effects: No data available. Section 13. Disposal Considerations Waste Disposal Method: Dispose in accordance with local, state, and federal regulations. Section 14. Transport Information I LAND TRANSPORT (US DOT): DOT Proper Shipping Name: Ethyl Alcohol Solution DOT Hazard Class: 3 FLAMMABLE LIQUID UN/NA Number: 1170 Packing Group: II ADR/RID Shipping Name: Ethyl Alcohol Solution UN Number: 1170 Packing Group: II		Contine 10 Fools					
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SAFETY DATA SHEET 4(Z),7(Z),10(Z),13(Z),16(Z)-Nonadecapentaenoic

Revision: 05/18/2016

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name:	Ethyl Alcohol Solution				
UN Number:	1170	Packing Group:	II		
Hazard Class:	3 - FLAMMABLE LIQUID	IATA Classification:	3		
Additional Transport	Transport in accordance with loca	I, state, and federal regulations.			
Information:	When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of				
	E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.				
	Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.				

Section 15. Regulatory Information

CAS # Hazardous Com		nponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
		3(Z),16(Z)-Nonadecapentaenoic	No	No	No
64-17-5	Ethyl alcohol		No	No	No
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA or State Lists		
136156-13-3	4(Z),7(Z),10(Z),1 Acid	3(Z),16(Z)-Nonadecapentaenoic	CAA HAP,ODC: PROP.65: No	No; CWA NPDES	No; TSCA: No; CA
64-17-5	Ethyl alcohol		CAA HAP,ODC: Inventory; CA P	No; CWA NPDES ROP.65: No	No; TSCA: Yes -
Regulatory Inf Statement:	Interview Interview				egulation (EC)
		Section 16. Oth	er Informatio	on	
Revision Date:		05/18/2016			
Additional Info This Product:	ormation About	No data available.			
Company Poin	cy or Disclaimer:	DISCLAIMER: This information i currently available to us. However express or implied, with respect use. Users should make their ow their particular purposes.	er, we make no wa to such informatior	rranty of merchanta , and we assume r	bility or any other warrant