

Revision: 04/10/2018 Supersedes Revision: 05/22/2013

	acc	ording to Regulation (EC) No. 190	07/2006 as amended by	(EC) No. 1272/200	8			
	Section 1.	Identification of the Substar	nce/Mixture and of t	the Company/U	ndertaking			
1.1	Product Code:	10562						
	Product Name:	CAY10631						
	Synonyms:	14Z,17Z,20Z,23Z,26Z,29	9Z-dotriaconta-hexae	n-1-ol;				
1.2								
1.2	Relevant identified uses of the substance or mixture and uses advised against: Relevant identified uses: For research use only, not for human or veterinary use.							
1.3	Details of the Supplier of the Safety Data Sheet: Company Name: Cayman Chemical Company							
	Company Name.	1180 E. Ellsworth Rd.	Jany					
		Ann Arbor, MI 48108						
	Web site address:	www.caymanchem.com						
	Information:	Cayman Chemical Comp	bany	+1 (73-	4)971-3335			
1.4	Emergency telephone nu			Ύ -	,			
	Emergency Contact:	CHEMTREC Within USA	and Canada:	+1 (80	0)424-9300			
		CHEMTREC Outside US		-	3)527-3887			
		Continue O I In			,			
		Section 2. Ha	zards identific	cation				
2.1	Classification of the Subs							
	Flammable Liquids, Cat	egory 2						
2.2	Label Elements:							
	GHS Signal Word: GHS Hazard Phrases:	Danger						
	H225: Highly flammable liquid and vapor.							
	GHS Precaution Phrases: P210: Keep away from {heat/sparks/open flames/hot surfaces} No smoking.							
		-	urfaces) - No smokin	q				
	P210: Keep away from {h	eat/sparks/open flames/hot su		•				
	P210: Keep away from {h P280: Wear {protective g	eat/sparks/open flames/hot su oves/protective clothing/eye p		•				
	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases	eat/sparks/open flames/hot su oves/protective clothing/eye p	rotection/face protect	tion}.	Rinse skin with			
	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases	eat/sparks/open flames/hot su oves/protective clothing/eye p	rotection/face protect	tion}.	. Rinse skin with			
	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower.	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off	rotection/face protect	tion}.	. Rinse skin with			
	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases:	rotection/face protect	tion}.	. Rinse skin with			
2.3	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for	rotection/face protect immediately all conta	tion}. aminated clothing				
2.3	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7 Adverse Human Health	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for Material may be irritating to t	rotection/face protect immediately all conta Disposal information he mucous membrar	tion}. aminated clothing n. nes and upper res				
2.3	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for	rotection/face protect immediately all conta Disposal information he mucous membrar n, ingestion, or skin al	tion}. aminated clothing n. nes and upper res bsorption.				
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2.3	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7 Adverse Human Health Effects and Symptoms:	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp	rotection/face protect immediately all conta r Disposal information he mucous membrar n, ingestion, or skin al piratory system irritation e, the toxicological pro-	tion}. aminated clothing n. hes and upper res bsorption. on. operties have not	piratory tract. been thoroughly investigated.			
2.3	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7 Adverse Human Health Effects and Symptoms: Sect	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge ion 3. Composition	rotection/face protect immediately all conta r Disposal information he mucous membrar n, ingestion, or skin al piratory system irritation e, the toxicological pro-	tion}. aminated clothing n. hes and upper res bsorption. on. operties have not	piratory tract. been thoroughly investigated.			
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CAS RTE	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7 Adverse Human Health Effects and Symptoms: Sect # / Hazardous Comp	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge ion 3. Composition	rotection/face protect immediately all conta Disposal information he mucous membrar n, ingestion, or skin al piratory system irritation e, the toxicological pro	tion}. aminated clothing n. hes and upper res bsorption. on. operties have not ON INGREDIE	piratory tract. been thoroughly investigated. hts			
	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7 Adverse Human Health Effects and Symptoms: Section Section Figure 1 Hazardous Comp REACH Registra	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge ion 3. Composition	rotection/face protect immediately all conta poisposal information the mucous membrar in, ingestion, or skin all piratory system irritation the toxicological pro- in/Information (Concentration	tion}. aminated clothing n. nes and upper res bsorption. on. operties have not On Ingredie EC No./ EC Index No.	piratory tract. been thoroughly investigated. Nts GHS Classification			
CAS RTE NA NA	P210: Keep away from {h P280: Wear {protective g GHS Response Phrases P303+361+353: IF ON SI water/shower. GHS Storage and Dispo Please refer to Section 7 Adverse Human Health Effects and Symptoms: Section Section Figure 1 Hazardous Comp REACH Registra	eat/sparks/open flames/hot su oves/protective clothing/eye p :: KIN (or hair): Remove/take off sal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge ion 3. Composition	rotection/face protect immediately all conta poisposal information the mucous membrar in, ingestion, or skin all piratory system irritation the toxicological pro- in/Information (Concentration	tion}. aminated clothing n. hes and upper res bsorption. on. operties have not ON INGREDIE EC No./ EC Index No. NA	piratory tract. been thoroughly investigated. Nts GHS Classification			



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		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 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.				
	In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.				
	In Case of Ingestion:	Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.				
4.2	Important Symptoms and Effects, Both Acute and Delayed:	May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.				
		Section 5. Fire Fighting Measures				
5.1	Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.				
	Unsuitable Extinguishing Media:	A solid water stream may be inefficient.				
5.2	Flammable Properties and Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.					
	Hazards:	Container explosion may occur under fire conditions.				
		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 UEL: 19.0% at 25.0 C				
	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.				
		Section 6. Accidental Release Measures				
6.1	Protective Precautions, Protective Equipment an Emergency Procedures:	 Avoid breathing vapors and provide adequate ventilation. d As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). 				
6.2	Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.				
6.2		· Contain shill and collect as appropriate				
6.3	Containment and Cleanir	r Contain spill and collect, as appropriate. ngTransfer to a chemical waste container for disposal in accordance with local regulations.				
	Up:					



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		Section 7. Ha	andling and Storage				
7.1 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray.							
	in Handling:	Avoid prolonged or repeate					
	-	Keep away from sources of ignition.					
		Take precautionary measur	res against static discharge.				
7.2	Precautions To Be Taken	Keep away from heat, spar	ks, and flame.				
	in Storing:	Keep container tightly close	ed.				
		Store in accordance with in	formation listed on the product insert.				
	Other Precautions:	Hygroscopic					
	Sect	ion 8. Exposure C	Controls/Personal Protection				
8.1	Exposure Parameters:						
CAS	# Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations			
64-17	7-5 Ethyl alcohol	ACGIH TLV	TLV: 1000 ppm				
		France VL	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)				
		OSHA PELs	PEL: 1000 ppm				
		Britain EH40	TWA: 1920 mg/m3 (1000 ppm) STEL: ()				
8.2	Exposure Controls:	I		I			
8.2.1	Engineering Controls	Use process enclosures, lo	cal exhaust ventilation, or other engineering cont	rols to control airborne			
	(Ventilation etc.):	levels below recommended	l exposure limits.				
8.2.2	Personal protection equip	oment:					
	Eye Protection:	Safety glasses					
	Protective Gloves:	Compatible chemical-resist	ant gloves				
	Other Protective Clothing:Lab coat						
	Respiratory Equipment	NIOSH approved respirator	r, as conditions warrant.				
	(Specify Type):						
	Work/Hygienic/Maintenan	•					
	ce Practices:		this material should be equipped with an eyewas	in and a safety showe			
		Wash thoroughly after hand No data available.	annig.				
	Se	ection 9. Physical	and Chemical Properties				
9.1	Information on Basic Phys	-					
	Physical States:	[]Gas [X]Lic					
	Appearance and Odor:	A solution in ethance	l .				
	pH:	No data.					
	Melting Point:	No data.					
	Boiling Point:	No data.					
	Flash Pt:		Jsed: Closed Cup				
	Evaporation Rate:	No data.					
	Flammability (solid, gas):						
	Explosive Limits:		t 25.0 C UEL: 19.0% at 25.0 C				
	Vapor Pressure (vs. Air or Hg):	rmm 43 MM_HG at 2	0.0 0				
	пg): Vapor Density (vs. Air = 1): No data.					
	vapor Density (vs. All = 1	J. No dala.					



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	cara car					00		1011. 03/22/2013
	Specific Gravity (Water	= 1):	No data.					
	Solubility in Water:		No data.					
	Octanol/Water Partition	1	No data.					
	Coefficient:							
	Autoignition Pt:		363.00 C					
	Decomposition Temper	ature:	No data.					
	Viscosity:		No data.					
9.2	Other Information							
	Percent Volatile:		No data.					
	Molecular Formula & W	eight:	C32H54O	454.8				
		S	Section 10	. Stability and	d Reactiv	/itv		
10.1	Reactivity:		ita available.	,		,		
10.2	Stability:			ble [X]				
10.3	Stability Note(s):			cordance with inform	nation listed o	n the product	insert.	
	Polymerization:			ill not occur [X]				
10.4	Conditions To Avoid:		flames, and spa					
10.5	Incompatibility - Materia		•					
10.5	To Avoid:		ammonia					
		peroxi						
		•	g oxidizing ager	nts				
10.6	Hazardous	-	n dioxide					
	Decomposition or	carbor	carbon monoxide					
	Byproducts:							
		Se	ection 11.	Toxicologica	l Informa	ition		
11.1	Information on	The to	oxicological effe	ects of this product h	ave not been	thoroughly st	udied.	
	Toxicological Effects:	Ethan	nol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50					
		(rat): 7	7,060 mg/kg; O	ral LD50 (mouse): 3	,450 mg/kg; (Dral LD50 (mo	ouse): 10.5 ml/	kg; Oral LD50
		(rabbi	t): 6,300 mg/kg	; Inhalation LC50 (ra	at): 20,000 pp	m (10h); Inha	lation TCLO (h	uman): 1,800
		ppm (30m); Inhalatio	n TCLO (human): 2,	500 mg/m3 (2	20m); Inhalatio	on LC50 (rat):	5,900 mg/m3
		(6h); l	(6h); Inhalation LCLO (mouse): 29,300 ppm (7h);					
	Et		Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate;					
	Chronic Toxicological		Ethanol - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.					
	Effects:	•						
		Ethan		ber: KQ6300000				
Carci	inogenicity:	NTP?	No IARC	Monographs? No	OSHA Re	gulated? No		
CAS	# Hazardous Co	mponent	ts (Chemical N	lame)	NTP	IARC	ACGIH	OSHA
	NA CAY10631				n.a.	n.a.	n.a.	n.a.
64	4-17-5 Ethyl alcohol				n.a.	1	A4	n.a.
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			Section 12. Ecolo	gical Informat	ion			
12.1 Toxicity:			Avoid release into the environment.					
			Runoff from fire control or dilution water may cause pollution.					
12.2	Persiste	istence and No data available.						
	Degrada	ability:	:					
12.3	Bioaccu	Imulative	No data available.					
	Potentia	al:						
12.4	Mobility	in Soil:	No data available.					
12.5	Results assessr		No data available.					
12.6		dverse effects:	No data available.					
			Section 13. Dispos	al Considerat	ions			
13.1	Waste D	Disposal Method:	Dispose in accordance with loca	al, state, and federal r	egulations.			
			Section 14. Trans	sport Informat	ion			
14.1	LAND 1	RANSPORT (US I	DOT):					
D	OT Prope	er Shipping Name:	Ethyl Alcohol Solution					
	OT Hazaı	d Class:	3 FLAMMABI	LE LIQUID				
U	N/NA Nu	mber:	1170	Packing Grou	ıp:	II		
14.1		RANSPORT (Euro						
ADR/RID Shipping Name:			Ethyl Alcohol Solution					
UN Number:			1170	Packing Group:				
	lazard Cla		3 - FLAMMABLE LIQUID					
14.3		ANSPORT (ICAO/I	-					
	ICAO/IATA Shipping Name:		Ethyl Alcohol Solution	Deaking Cree				
-	UN Number: Hazard Class:		1170 3 - FLAMMABLE LIQUID	Packing Group: IATA Classification:		 3		
						5		
	Additional TransportTransport in accordance with local, 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. Regul	atory Informat	tion			
	•	-	ents and Reauthorization Act o	-		,		
CAS			ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)		
	NA	CAY10631		No	No	No		
64	-17-5	Ethyl alcohol		No	No	No		
CAS	#	Hazardous Com	ponents (Chemical Name)	Other US EPA or §	State Lists			
	NA	CAY10631		CAA HAP,ODC: No PROP.65: No	o; CWA NPDES: No	; TSCA: No; CA		
64-17-5 Ethyl alcohol CAA HAP,ODC: No			; CWA NPDES: No	; TSCA: Yes -				
						Multi-region format		



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	Inventory; CA PROP.65: No				
Regulatory Information	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC)				
Statement:	ement: No.1272/2008.				
	Section 16. Other Information				
Revision Date:	Date: 04/10/2018				
dditional Information About No data available.					
This Product:					
Company Policy or Disclaimer:	DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.				