

Page: 1 of 5

	according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015						
		Section 1. Ide	ntification of the Substar	nce/Mixture and of t	he Company/Ur	ndertaking	
1.1	Product	Code:	400012				
	Product	Name:	96-Well Cover Sheet				
1.2	Relevan	t identified uses of th	ne substance or mixture a	ind uses advised ag	gainst:		
	Releva	ant identified uses:	For research use only, no	ot for human or veter	inary use.		
1.3	Details of	of the Supplier of the	Safety Data Sheet:				
	Comp	any Name:	Cayman Chemical Comp	bany			
			1180 E. Ellsworth Rd. Ann Arbor, MI 48108				
	Web s	ite address:	www.caymanchem.com				
	Inform	ation:	Cayman Chemical Comp	bany	+1 (734	4)971-3335	
1.4	Emerge	ncy telephone numb	er:				
	Emerg	ency Contact:	CHEMTREC Within USA		+1 (800	0)424-9300	
			CHEMTREC Outside US	A and Canada:	+1 (703	3)527-3887	
			Section 2. Haz	zards Identific	ation		
2.1	Classifi	cation of the Substan	ce or Mixture:				
2.2	Label El	ements:					
	GHS S	ignal Word:	None				
	GHS H	lazard Phrases:					
Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.				cording to GHS.			
GHS Precautionary Phrases:							
	No phrases apply.						
	GHS Response Phrases:						
	No phrases apply. GHS Storage and Disposal Phrases:						
			Storage and Section 13 for	Disposal information	۱.		
	UFI:						
2.3							
			ay be harmful by inhalation				
		Μ	ay cause eye, skin, or resp	iratory system irritatio	on.		
		Те	o the best of our knowledge	e, the toxicological pro	operties have not	been thoroughly investigated.	
		Sectio	n 3. Composition	/Information of	on Ingredier	nts	
CAS RTE	#/ CS #	Hazardous Compon REACH Registration	ents (Chemical Name)/ I No.	Concentration	EC No./ EC Index No.	GHS Classification	
NA NA		96-Well Cover Sheet		100.0 %	NA NA	No data available.	



Revision: 01/07/2020 Supersedes Revision: 07/01/2018

		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.
	In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 15 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.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
5.2	Flammable Properties an	dNo data available
0.2	Hazards:	
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
5.3	-	: 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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid raising and breathing dust, and provide adequate ventilation.
	Protective Equipment and	d 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		r Contain spill and collect, as appropriate.
		ng Transfer to a chemical waste container for disposal in accordance with local regulations.
	Up:	
		Section 7. Handling and Storage
7.1		Avoid breathing dust/fume/gas/mist/vapours/spray.
	in Handling:	Avoid prolonged or repeated exposure.
7.2		Keep container tightly closed.
	in Storing:	Store in accordance with information listed on the product insert.
	Sec	tion 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	
8.2	Exposure Controls:	
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.



	(Ventilation ato):							
	(Ventilation etc.):							
3.2.2	Personal protection equip							
	Eye Protection:	Safety glasses						
	Protective Gloves:	Compatible chemical-resistant gloves						
	Other Protective Clothing	Lab coat						
	Respiratory EquipmentNIOSH approved respirator, as conditions warrant.(Specify Type):							
	Work/Hygienic/Maintenan	Do not take internally.						
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash and a safety s	showe					
		Wash thoroughly after handling.						
		No data available.						
	Se	ection 9. Physical and Chemical Properties						
9.1	Information on Basic Phys	ical and Chemical Properties						
	Physical States:	[]Gas []Liquid [X]Solid						
	Appearance and Odor:	96-Well Cover Sheet						
	pH:	No data.						
	Melting Point:	No data.						
	Boiling Point:	No data.						
	Flash Pt:	No data.						
	Evaporation Rate:	No data.						
	Flammability (solid, gas):	No data available.						
	Explosive Limits:	LEL: No data. UEL: No data.						
	Vapor Pressure (vs. Air or	mm No data.						
	Hg):							
	Vapor Density (vs. Air = 1)	: No data.						
	Specific Gravity (Water =	1): No data.						
	Solubility in Water:	No data.						
	Octanol/Water Partition	No data.						
	Coefficient:							
	Autoignition Pt:	No data.						
	Decomposition Temperatu	ure: No data.						
	Viscosity:	No data.						
9.2	Other Information							
	Percent Volatile:	No data.						
		Section 10. Stability and Reactivity						
10.1	Reactivity:	No data available.						
10.2	Stability:	Unstable [] Stable [X]						
10.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.						
	Polymerization:	Will occur [] Will not occur [X]						
10.4	Conditions To Avoid:	No data available.						
10.5	Incompatibility - Materials To Avoid:	No data available.						
10.6	Hazardous	No data available.						
	Decomposition or							
	Byproducts:							
	· · · · · · · · · · · · · · · · · · ·							
		Multi-region	n form					



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Toxic CAS # NA 2.1 Toxic 2.2 Persi Degra 2.3 Bioac Poter 2.3 Bioac Poter 2.4 Mobi 2.5 Resu asses 2.6 Other 3.1 Wast 4.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	Runoff from fire control or dilution istence and No data available. radability: radability: ccumulative No data available. ntial: No data available.	NTP n.a. logical Informat	IARC n.a.	ACGIH	OSHA n.a.
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12.2 Persi Degri 12.3 Bioad Poter 12.4 Mobi 12.5 Resu asses 12.6 Other 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	city: Avoid release into the enviror Runoff from fire control or dilution istence and No data available. radability: ccumulative No data available. ntial:	nment.			
12.2 Persi Degri 12.3 Bioad Poter 12.4 Mobi 12.5 Resu asses 12.6 Other 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	Runoff from fire control or dilution istence and No data available. radability: radability: ccumulative No data available. ntial: No data available.		ollution.		
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Degra 12.3 Bioad Poter 12.4 Mobi 12.5 Resu asses 12.6 Other 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	radability: ccumulative No data available. ntial:				
12.3 Bioad Poter 12.4 Mobi 12.5 Resu asses 12.6 Other 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	ccumulative No data available.				
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12.4 Mobi 12.5 Resu asses 12.6 Other 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1					
12.5 Resu asses 12.6 Other 13.1 Wast 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	ility in Soil: No data available.				
asses 12.6 Other 13.1 Wast 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	ility in Soil: No data available. Its of PBT and vPvB No data available.				
12.6 Other 13.1 Wast 13.1 Wast 14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1					
14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	assessment: 12.6 Other adverse effects: No data available.				
14.1 LANI DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	Section 13. Disposal Considerations				
DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	te Disposal Method: Dispose in accordance with lo				
DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	Section 14 Tra	ansport Informat	tion		
DOT Pro DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	D TRANSPORT (US DOT):				
DOT Haz UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1					
UN/NA N 14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	oper Shipping Name: Not dangerous goods. zard Class:				
14.1 LANI ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1					
ADR/RIE UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	D TRANSPORT (European ADR/RID):				
UN Num Hazard (14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1	D Shipping Name: Not dangerous goods.				
14.3 AIR 1 ICAO/IA UN Num Hazard (Additional 1					
ICAO/IA UN Num Hazard (Additional 1	Class:				
UN Num Hazard (Additional 1	TRANSPORT (ICAO/IATA):				
Hazard (Additional 1	TA Shipping Name: Not dangerous goods.				
Additional 1	ıber:	Packing Grou	ıp:		
	Class:				
imormation	-	local, state, and federa	l regulations.		
	Section 15. Reg	ulatory Informa	tion		
FDA SARA	(Superfund Amendments and Reauthorization A	•			
CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 31	3 (TRI)
NA	96-Well Cover Sheet	No	No	No	
CAS #	Hazardous Components (Chemical Name)	Other US EPA or S	± State Lists	!	
NA	96-Well Cover Sheet	CAA HAP,ODC: N PROP.65: No	o; CWA NPDE	S: No; TSCA	: No; CA



CHIMICAL	Supersedes Revision: 07/01/2018
Regulatory Information	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.
Statement:	
	Section 16. Other Information
Revision Date:	01/07/2020
Additional Information About	No data available.
This Product:	
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.



Revision: 01/07/2020 Supersedes Revision: 04/21/2017

		accordir	ng to Regulation (EC) No. 1907/2006 as a	mended by (EC) No. 2015/8	30 and US OSHA HCS	2015		
		Section 1.	Identification of the Substan	ce/Mixture and of t	he Company/Ur	idertaking		
1.1	Product Product		400017 96-Well Solid Plate (black	<)				
1.2	Relevan	t identified uses o	of the substance or mixture a	nd uses advised ag	gainst:			
	Releva	int identified uses	: For research use only, no	ot for human or veter	inary use.			
1.3	Details o	of the Supplier of t	the Safety Data Sheet:					
	Compa	any Name:	Cayman Chemical Comp 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	any				
	Web s	ite address:	www.caymanchem.com					
	Inform	ation:	Cayman Chemical Comp	any	+1 (734	971-3335		
1.4	Emerge	ncy telephone nur	mber:					
	Emerg	ency Contact:	CHEMTREC Within USA CHEMTREC Outside US			0)424-9300 3)527-3887		
			Section 2. Haz	zards Identific	ation			
2.1	Classific	cation of the Subs	tance or Mixture:					
2.2	2.2 Label Elements:							
	GHS Signal Word: None							
	GHS H	IS Hazard Phrases:						
Based on evaluation of currently available data this substance or mixture is not classifiable according GHS Precautionary Phrases:				stance or mixture is r	not classifiable ac	cording to GHS.		
	No phrases apply. GHS Response Phrases:							
	No phi	ases apply.						
		Storage and Dispo						
	Please	e refer to Section 7	for Storage and Section 13 for	Disposal information	1.			
	UFI:							
2.3		e Human Health	Material may be irritating to the			piratory tract.		
	Effects	and Symptoms:	May be harmful by inhalation	-	-			
			May cause eye, skin, or respi			been thoroughly investigated.		
		Soot	_		-			
		1	ion 3. Composition	1				
CAS RTE	#/ CS#	Hazardous Comp REACH Registrat	oonents (Chemical Name)/ tion No.	Concentration	EC No./ EC Index No.	GHS Classification		
NA NA		384-Well Solid Plate	(black)	100.0 %	NA NA	No data available.		



Revision: 01/07/2020 Supersedes Revision: 04/21/2017

		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.
	In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 15 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.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
5.2	Flammable Properties an	dNo data available.
	Hazards:	
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
5.3	-	: 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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid raising and breathing dust, and provide adequate ventilation.
	Protective Equipment an	d 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 Fo	r Contain spill and collect, as appropriate.
	Containment and Cleanir	\log 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.
7.2	Precautions To Be Taken	Keep container tightly closed.
	in Storing:	Store in accordance with information listed on the product insert.
		tion 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	
8.2	Exposure Controls:	
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.



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	(Ventilation etc.):	· · · ·							
8.2.2		oment:							
	Eye Protection:	Safety glasses							
	Protective Gloves:	Compatible chemical-resistant gloves							
	Other Protective Clothing								
	Respiratory Equipment NIOSH approved respirator, as conditions warrant.								
	(Specify Type):								
	Work/Hygienic/Maintenan Do not take internally.								
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash and a safety sh	ower.						
		Wash thoroughly after handling.							
		No data available.							
	Se	ection 9. Physical and Chemical Properties							
9.1	Information on Basic Phys	sical and Chemical Properties							
	Physical States:	[]Gas []Liquid [X]Solid							
	Appearance and Odor:	Plate							
	pH:	No data.							
	Melting Point:	No data.							
	Boiling Point:	No data.							
	Flash Pt:	No data.							
	Evaporation Rate:	No data.							
	Flammability (solid, gas):	No data available.							
	Explosive Limits:	LEL: No data. UEL: No data.							
	Vapor Pressure (vs. Air or	r mm No data.							
	Hg):								
	Vapor Density (vs. Air = 1): No data.							
	Specific Gravity (Water =	1): No data.							
	Solubility in Water:	No data.							
	Octanol/Water Partition	No data.							
	Coefficient:								
	Autoignition Pt:	No data.							
	Decomposition Temperate	ure: No data.							
	Viscosity:	No data.							
9.2	Other Information								
	Percent Volatile:	No data.							
		Section 10. Stability and Reactivity							
10.1	Reactivity:	No data available.							
10.2	Stability:	Unstable [] Stable [X]							
10.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.							
	Polymerization:	Will occur [] Will not occur [X]							
10.4	Conditions To Avoid:	No data available.							
10.5	Incompatibility - Materials To Avoid:	No data available.							
10.6	Hazardous	No data available.							
	Decomposition or								
	Byproducts:								
		Multi-region f	forma						



SAFETY DATA SHEET 96-Well Solid Plate (black)

CAS # N 12.1 12.2 12.3 12.3 12.4 12.5 12.5 12.6 12.6 13.1 12.1	NA 384-Well Solid Pl Toxicity: Persistence and Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment:	Section 12. Ecolo Avoid release into the environr Runoff from fire control or dilut No data available. No data available. No data available. No data available.	NTP n.a. ogical Informa	n.a.	udied. ACGIH n.a.	OSHA n.a.	
12.1 12.2 12.3 12.3 12.4 12.5 12.5 12.6 13.1	NA 384-Well Solid Pl Toxicity: Persistence and Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects: Other adverse effects:	ate (black) Section 12. Ecolo Avoid release into the environr Runoff from fire control or dilut No data available. No data available. No data available. No data available.	n.a. ogical Informa	n.a.		_	
12.1 12.2 12.3 12.4 12.5 12.5 12.6 13.1	Toxicity: Persistence and Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	Section 12. Ecolo Avoid release into the environr Runoff from fire control or dilut No data available. No data available. No data available. No data available.	ogical Informa	ition	n.a.	n.a.	
12.2 12.3 12.4 12.5 12.6 (0) 13.1 	Persistence and Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	Avoid release into the environr Runoff from fire control or dilut No data available. No data available. No data available. No data available. No data available.	nent.				
12.2 12.3 12.4 12.5 12.6 (0) 13.1 	Persistence and Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	Runoff from fire control or dilut No data available. No data available. No data available. No data available. No data available.		pollution.			
12.3 12.4 12.5 12.6 (13.1 \	Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	No data available. No data available. No data available. No data available. No data available.	ion water may cause	pollution.			
12.3 12.4 12.5 12.6 (13.1 \	Degradability: Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	No data available. No data available. No data available. No data available.					
12.3 12.4 12.5 12.6 (13.1	Bioaccumulative Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	No data available. No data available. No data available.					
12.4 1 12.5 1 12.6 (13.1 1	Potential: Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	No data available. No data available. No data available.					
12.4 12.5 12.6 (13.1	Mobility in Soil: Results of PBT and vPvB assessment: Other adverse effects:	No data available. No data available.					
12.5 12.6 (13.1 \	Results of PBT and vPvB assessment: Other adverse effects:	No data available. No data available.					
12.6 (13.1 \	assessment: Other adverse effects:	No data available.					
12.6 (13.1 \	Other adverse effects:						
	Waste Disposal Method:	Section 13 Disno		assessment: Other adverse effects: No data available.			
	Waste Disposal Method:		Section 13. Disposal Considerations				
14.1		•					
14.1		Section 14. Trar	nsport Informa	ition			
	LAND TRANSPORT (US I		•				
	T Proper Shipping Name:	-					
	T Hazard Class:	Not dangerede geede.					
UN/	/NA Number:						
14.1	LAND TRANSPORT (Euro	pean ADR/RID):					
ADI	R/RID Shipping Name:	Not dangerous goods.					
UN	Number:						
Haz	zard Class:						
14.3	AIR TRANSPORT (ICAO/I	ATA):					
ICA	O/IATA Shipping Name:	Not dangerous goods.					
_	Number:		Packing Gro	oup:			
	zard Class:						
	onal Transport	Transport in accordance with I	ocal, state, and feder	al regulations.			
Informa	ation:						
		Section 15. Regu	latory Informa	ation			
		ents and Reauthorization Act	-	0.004.00			
CAS #		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ		3 (TRI)	
	NA 384-Well Solid Pl		No	No	No		
CAS #		ponents (Chemical Name)	Other US EPA or				
N	NA 384-Well Solid PI	ate (black)	CAA HAP,ODC: I PROP.65: No	NO; CWA NPDE	-5: NO; 「SCA	: No; CA	
	ł		+				



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CHEMICAL	Supersedes Revision: 04/21/2017
Regulatory Information Statement:	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.
	Section 16. Other Information
Revision Date:	01/07/2020
Additional 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.



	according							
		to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015						
	Section 1. Ic	lentification of the Substance/Mixture and of the Company/Undertaking						
F	Product Code:	700416						
	Product Name:	DTT (1M)						
1.2 F	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 E	Details of the Supplier of th	e 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						
1.4 I	Emergency telephone num							
	Emergency Contact:	CHEMTREC Within USA and Canada: +1 (800)424-9300 CHEMTREC Outside USA and Canada: +1 (703)527-3887						
		Section 2. Hazards Identification						
2.1 (Classification of the Substa	ince or Mixture:						
	Acute Toxicity: Oral, Cate	egory 4						
	Skin Corrosion/Irritation, Category 2							
	Serious Eye Damage/Eye	Irritation, Category 2A						
2.2 L	Label Elements:							
	$\mathbf{\nabla}$							
	GHS Signal Word:	Warning						
	GHS Hazard Phrases:							
	GHS Hazard Phrases: H302: Harmful if swallowed	L.						
	GHS Hazard Phrases: H302: Harmful if swallowed H315: Causes skin irritation	l. 1.						
	GHS Hazard Phrases: H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye	I. n. irritation.						
	GHS Hazard Phrases: H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye GHS Precautionary Phras	l. n. irritation. ses:						
	GHS Hazard Phrases: H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye GHS Precautionary Phras P264: Wash {hands} thorow	i. n. irritation. g es: ughly after handling.						
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	GHS Hazard Phrases: H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye GHS Precautionary Phrase P264: Wash {hands} thorow P280: Wear {protective glo GHS Response Phrases: P301+312: IF SWALLOWE P302+352: IF ON SKIN: W P305+351+338: IF IN EYE to do. Continue rinsing. P330: Rinse mouth. P332+313: If skin irritation P337+313: If eye irritation	I. irritation. i	easy					
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SAFETY DATA SHEET DTT (1M)

Revision: 01/07/2020 Supersedes Revision: 11/13/2019

	UFI:	
2.3	Adverse Human Health	Causes serious eye irritation.
	Effects and Symptoms:	Causes skin irritation.
		Harmful if swallowed.
		Material may be irritating to the mucous membranes and upper respiratory tract.
		May be harmful by inhalation or skin absorption.
		May cause respiratory system irritation.
		To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

		Hazardous Components (Chemical Name)/ REACH Registration No.		Concentration	EC No./ EC Index No.	GHS Classification		
	3483-12-3 DL-Dithiothreitol EK1610000			15.5 %	222-468-7 NA	Acute Tox.(O) 4: H302 Skin Corr. 2: H315 Eye Damage 2A: H319 STOT (SE) 3: H335 H336		
773 ZC01	2-18-5 10000	Water na		84.5 %	231-791-2 NA	No GHS classifications apply.		
		•	Section 4. Fi	rst Aid Measu	ires	•		
4.1	Measu	ption of First Aid res: e of Inhalation:			respiration or giv	ve oxygen by trained personnel.		
	In Cas	e of Skin Contact:	Get immediate medical attention. 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.					
	In Cas	e of Eye Contact:	Hold eyelids apart and flush e and tested by medical person		ater for at least 1	5 minutes. Have eyes examined		
	In Cas	e of Ingestion:	Wash out mouth with water p unconscious person. Get med medical personnel.	-	-	ive anything by mouth to an ng unless directed to do so by		
			Section 5. Fire	Fighting Mea	asures			
5.1	Media: Unsuit	table Extinguishing	Use alcohol-resistant foam, o Use water spray to cool fire-e A solid water stream may be	exposed containers.	r, or dry chemical	spray.		
5.2	Media	: nable Properties an	dNo data available					
5.2	Hazaro	-	uno data avaliable.					
			No data available.					
	Flash		No data.					
	-	sive Limits:	LEL: No data.	UEL: No da	ita.			
	-	inition Pt:	No data.					
5.3	Fire Fi	ghting Instructions	As in any fire, wear self-conta equivalent), and full protective		-			
			1 // 1	•		-)		



	Revision:	01/07/2020
Supersedes	Revision:	11/13/2019

Protective Equipment and As conditions warrant, we'r a NIOSH approved self-contained breathing apparatus, or respirator, Emergency Proceedures: and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). 8.2 Environmental Take steps to avoid release into the environment, if safe to do so. Precautions: 8.3 Methods and Material For Contain spill and collect, as appropriate. Containment and Cleaning 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/vapour/spray. In Handling: Avoid prolonged or repeated exposure. 7.2 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapour/spray. In Handling: Store in accordance with information listed on the product insert. Section 8. Exposure Controls/Personal Protection 8.1 Exposure Parameter: 8.2 Exposure Controls: 8.2 Exposure Controls: 8.2.1 Engineering Controls Use process enclosures, local exhaust veniliation, or other engineering controls to control airborne (Venitiation etc.): levels below recommended exposure limits. 8.2.2 Personal protection equipment: Eye Protective Controls:: 8.2.9 Protective Controls: Safety glasses Protective Gloves: Compatible chemical-resistant gloves Other Protective Conthing:: Lab coat Respiratory Equipment NIOSH approved respirator, as conditions warrant. (Specify Type): Work/Hygienic/Maintenan Do not take internally. ce Practices: Folicities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling. No data available. 8.1 Information on Basic Physical and Chemical Properties 9.1 Information on Basic Physical and Chemical Properties 9.1 Information on Basic Physical and Chemical Properties 9.1 Information on Basic Physical and Chemical Properties 9.2 Information on Basic Physical and Chemical Properties 9.3 Information on Basic Physical and Chemical Properties 9.4 Infor								
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Explosive Limits:LEL: No data.UEL: No data.Vapor Pressure (vs. Air or mmNo data.Hg):Vapor Density (vs. Air = 1):No data.		-						
Vapor Pressure (vs. Air or mm No data. Hg): Vapor Density (vs. Air = 1): No data.		• • • • •						
Hg): Vapor Density (vs. Air = 1): No data.		-						
Vapor Density (vs. Air = 1): No data.			mm No data.					
Multi-region format		Vapor Density (vs. Air = 1):	No data.					
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			Multi-region format					

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					0		1011. 11, 10, 2010		
	-	Gravity (Water =							
	Solubilit	y in Water:	No data.						
	Octanol/	Water Partition	No data.						
	Coefficie	ent:							
	Autoigni	tion Pt:	No data.						
	Decomp	osition Temperat	ure: No data.						
	Viscosity	y :	No data.						
9.2	Other Inf	ormation							
	Percent	Volatile:	No data.						
	Molecula	ar Formula & Wei	ght: C4H10O2S2 154.3						
			Section 10. Stability an	d Reactiv	/ity				
10.1	Reactivit	v:	No data available.						
10.2	Stability	-	Unstable [] Stable [X]						
10.3	Stability		Stable if stored in accordance with inform	nation listed o	n the product	insert.			
	Polymer		Will occur [] Will not occur [X]						
10.4		ns To Avoid:	No data available.						
10.5	-	tibility - Materials							
	To Avoid	1:	bases oxidizing agents						
			reducing agents						
			reducing agents						
10.6	6 Hazardous carbon dioxide								
10.0		osition or	carbon monoxide						
	Byprodu		sulfur oxides						
<u> </u>	Бургоци								
			Section 11. Toxicologica	I Informa	ition				
11.1	Informat	ion on	The toxicological effects of this product h			udied.			
	Toxicolo	gical Effects:	DTT - Toxicity Data: Intraperitoneal LD5	0 (mouse): 15	4 mg/kg;				
	Chronic	Toxicological	DTT - Investigated as a drug.						
	Effects:		Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.						
			See actual entry in RTECS for complete information.						
			DTT RTECS Number: EK1610000						
CAS #	¥	Hazardous Com	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
348	3-12-3	DL-Dithiothreitol		n.a.	n.a.	n.a.	n.a.		
773	2-18-5	Water		n.a.	n.a.	n.a.	n.a.		
			Section 12. Ecological	 Informati	 on				
12.1	Toxicity:	1	Avoid release into the environment.						
	l'exietty.		Runoff from fire control or dilution water	may cause po	ollution.				
12.2	Persiste	nce and	No data available.						
12.2	Degrada								
12.2	-	-	No data availabla						
12.3	Bioaccu		No data available.						
	Potentia								
12.4	Mobility		No data available.						
12.5	Results	of PBT and vPvB	No data available.						
	assessm	ient:							
						N	Iulti-region format		



Multi-region format

12.6 Other ad	lverse effects:	No data available.				
		Section 13. Dispos	al Considerat	ions		
13.1 Waste D	isposal Method:	Dispose in accordance with loca	I, state, and federal re	egulations.		
		Section 14. Trans	sport Informat	ion		
14.1 LAND TI	RANSPORT (US [ООТ):				
DOT Proper	Shipping Name:	Not dangerous goods				
DOT Hazaro						
UN/NA Num			Packing Grou	p:	III	
	RANSPORT (Euro					
	nipping Name:	Not dangerous goods				
UN Number			Packing Grou	ip:	III	
Hazard Clas		A T A \-				
	NSPORT (ICAO/I	-				
UN Number	Shipping Name: 	Not dangerous goods	Packing Grou		Ш	
Hazard Clas			Facking Grou		111	
Additional Trar		Transport in accordance with loo	cal state and federal	regulations		
Information:	iopont			rogulatione.		
		Section 15. Regula	atory Informat	ion		
EPA SARA (Su	EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists					
CAS #	- -	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)	
3483-12-3	DL-Dithiothreitol	,	No	No	No	
7732-18-5	Water		No	No	No	
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA or S	State Lists		
3483-12-3	DL-Dithiothreitol		CAA HAP,ODC: No; CWA NPDES:		TSCA: Yes -	
			Inventory; CA PROP.65: No			
7732-18-5	Water		CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
Regulatory Info	rmation	This SDS was prepared in accor	rdance with 29 CFR 1	910.1200 and Regul	ation (EC)	
Statement:		No.1272/2008.				
		Section 16. Oth	er Information	l		
Revision Date:		01/07/2020				
Additional Infor	mation About	No data available.				
This Product:						
Company Polic	y 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.				



Revision: 01/07/2020 Supersedes Revision: 06/04/2016

	according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015							
	Section 1. Identification of the Substance/Mixture and of the Company/Undertaking							
	_				ne company/or	IUGILANIIY		
1.1	Product Product		700562 PAD4 (human recombina	ant) Assay Peacont				
			-					
1.2			of the substance or mixture a	-	-			
		int identified uses	, , , , , , , , , , , , , , , , , , ,	ot for numan or veter	inary use.			
1.3			the Safety Data Sheet:					
	Compa	any Name:	Cayman Chemical Comp 1180 E. Ellsworth Rd.	any				
			Ann Arbor, MI 48108					
	Web si	ite address:	www.caymanchem.com					
	Inform	ation:	Cayman Chemical Comp	any	+1 (734	4)971-3335		
1.4	Emerge	ncy telephone nu	mber:					
	Emerg	ency Contact:	CHEMTREC Within USA			0)424-9300		
			CHEMTREC Outside US			3)527-3887		
			Section 2. Haz	zards Identific	ation			
2.1	Classific	ation of the Subs	stance or Mixture:					
2.2	Label El	ements:						
	GHS S	ignal Word:	None					
	GHS F	lazard Phrases:						
	Based	on evaluation of cu	urrently available data this subs	stance or mixture is r	not classifiable ac	cording to GHS.		
	GHS F	Precautionary Phra	ases:					
	No phr	ases apply.						
	GHS F	Response Phrases	5:					
	No phr	ases apply.						
	GHS S	torage and Dispo	osal Phrases:					
	Please	refer to Section 7	for Storage and Section 13 for	Disposal information	1.			
	UFI:							
2.3	Adverse	e Human Health	Material may be irritating to the			piratory tract.		
	Effects	and Symptoms:	May be harmful by inhalation		•			
			May cause eye, skin, or resp					
	To the best of our knowledge, the toxicological properties have not been thoroughly investigated.							
		Sect	tion 3. Composition	/Information of	on Ingredie	nts		
CAS			oonents (Chemical Name)/	Concentration	EC No./	GHS Classification		
RTECS #		REACH Registrat	tion No.		EC Index No.			
NA NA		(Trade Secret)NA		100.0 %	NA NA	No data available.		
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PAD4 (human recombinant) Assay Reagent

Revision: 01/07/2020 Supersedes Revision: 06/04/2016

		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 contaminate 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 15 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:	Prolonged exposure may cause nausea, headache, and vomiting.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
5.2	Flammable Properties an Hazards:	dEmits toxic fumes under fire conditions.
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid breathing vapors and provide adequate ventilation.
	Protective Equipment an	d 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 Precautions:	Take steps to avoid release into the environment, if safe to do so.
6.3		r Contain spill and collect, as appropriate. ng Transfer to a chemical waste container for disposal in accordance with local regulations.
	Up:	
		Section 7. Handling and Storage
7.1		Avoid breathing dust/fume/gas/mist/vapours/spray.
	in Handling:	Avoid prolonged or repeated exposure.
7.2	Precautions To Be Taken in Storing:	Keep container tightly closed. Store in accordance with information listed on the product insert.
		Multi-region form



PAD4 (human recombinant) Assay Reagent

	HEMICAL	Supersedes Revision: 06/04/2016						
	Sectio	on 8. Exposure Controls/Personal Protection						
8.1	Exposure Parameters:							
8.2	Exposure Controls:							
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne						
	(Ventilation etc.):	vels below recommended exposure limits.						
8.2.2	Personal protection equipment:							
	Eye Protection: S	ection: Safety glasses						
	Protective Gloves:	Compatible chemical-resistant gloves						
	Other Protective Clothing:Lab coat							
	Respiratory Equipment N	IIOSH approved respirator, as conditions warrant.						
	(Specify Type):							
	Work/Hygienic/Maintenan							
		acilities storing or utilizing this material should be equipped with an eyewash and a safety shower						
		Vash thoroughly after handling.						
	Ν	lo data available.						
	See	ction 9. Physical and Chemical Properties						
9.1	Information on Basic Physic	-						
	Physical States:	[]Gas [X]Liquid []Solid						
	Appearance and Odor:	Solution						
	pH:	7.5						
	Melting Point:	No data.						
	Boiling Point:	No data.						
	Flash Pt:	No data.						
	Evaporation Rate:	No data.						
	Flammability (solid, gas):	No data available. LEL: No data. UEL: No data.						
	Explosive Limits: Vapor Pressure (vs. Air or r							
	Hg):							
	Vapor Density (vs. Air = 1):	No data.						
	Specific Gravity (Water = 1)							
	Solubility in Water:	No data.						
	Octanol/Water Partition	No data.						
	Coefficient:							
	Autoignition Pt:	No data.						
	Decomposition Temperatur	re: No data.						
	Viscosity:	No data.						
9.2	Other Information							
	Percent Volatile:	No data.						



Multi-region format

PAD4 (human recombinant) Assay Reagent

			Section 10. Stability a	ind Reacti	vity			
10.1	Reactivit	y:	No data available.					
10.2	.2 Stability: Unstable [] Stable [X]							
10.3	Stability	Note(s):	Stable if stored in accordance with inf	ormation listed	on the product	insert.		
	Polymeri	ization:	Will occur [] Will not occur [X]					
10.4	Conditio	ns To Avoid:	No data available.					
10.5	Incompa	tibility - Materials	s strong bases					
	To Avoid	l:	strong oxidizing agents					
10.6	Hazardo	us	carbon dioxide					
	Decomp	osition or	carbon monoxide					
	Byprodu	cts:						
			Section 11. Toxicologic	cal Informa	ation			
11.1	Informat	ion on	The toxicological effects of this produc	ct have not beer	n thoroughly st	udied.		
	Toxicolo	gical Effects:						
Carcir	nogenicity	:	NTP? No IARC Monographs? No	OSHA Re	egulated? No			
CAS	#	Hazardous Com	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA	
	NA	(Trade Secret)		n.a.	n.a.	n.a.	n.a.	
			Section 12. Ecologica	al Informat	ion	·	·	
12.1	Toxicity:		Avoid release into the environment.					
	,		Runoff from fire control or dilution water may cause pollution.					
12.2	Persister	nce and	No data available.					
	Degrada	bility:						
12.3	Bioaccu	nulative	No data available.					
	Potentia	:						
12.4	Mobility	in Soil:	No data available.					
12.5	Results of	of PBT and vPvB	No data available.					
	assessm	ent:						
12.6	Other ad	verse effects:	No data available.					
			Section 13. Disposal C	Considerat	ions			
13.1	Waste Di	sposal Method:	Dispose in accordance with local, stat	e, and federal r	egulations.			
			Section 14. Transpo	rt Informat	ion			
14.1	LAND TR	RANSPORT (US D						
D	OT Proper	Shipping Name:	Not dangerous goods.					
	OT Hazard							
U	N/NA Num	ber:						
14.1	LAND TF	RANSPORT (Euro	opean ADR/RID):					
AI		ipping Name:	Not dangerous goods.					
U	N Number	:						
Ha	azard Clas	s:						

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CULINICAL

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PAD4 (human recombinant) Assay Reagent

14.3 AIR TF	4.3 AIR TRANSPORT (ICAO/IATA):					
ICAO/IATA Shipping Name:		Not dangerous goods.				
UN Numb	er:		Packing Gr	oup:		
Hazard CI	ass:					
Additional Tr	ansport	Transport in accordance with lo	ocal, state, and fede	ral regulations.		
Information:						
		Section 15. Regu	latory Inform	ation		
EPA SARA (S	Superfund Amendn	nents and Reauthorization Act	of 1986) Lists			
CAS #	Hazardous Com	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)	
NA	(Trade Secret)		No	No	No	
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA o	Other US EPA or State Lists		
NA	(Trade Secret)		CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No			
Regulatory In	formation	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC)				
Statement:		No.1272/2008.				
		Section 16. Ot	her Informatio	on		
Revision Date):	01/07/2020				
Additional Inf	ormation About	No data available.				
This Product:						
Company Pol	icy or Disclaimer:	DISCLAIMER: This information currently available to us. Howe express or implied, with respec- use. Users should make their of their particular purposes.	ver, we make no wa t to such informatior	rranty of merchanta , and we assume n	ability or any other warranty, no liability resulting from its	



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	according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015						
		Section 1. Ide	ntification of the Substar	nce/Mixture and of t	he Company/Ur	ndertaking	
1.1	Product	Code:	700563				
	Product	Name:	PAD Substrate				
1.2	•						
	Relevant identified uses: For research use only, not for human or veterinary use.						
1.3		of the Supplier of the					
	Compa	any Name:	Cayman Chemical Comp 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	pany			
	Web s	ite address:	www.caymanchem.com				
	Inform	ation:	Cayman Chemical Comp	bany	+1 (734	4)971-3335	
1.4	-	ncy telephone numbe					
	Emerg	ency Contact:	CHEMTREC Within USA CHEMTREC Outside US		•	0)424-9300 3)527-3887	
			Section 2. Haz	zards Identific	ation		
2.1	Classific	cation of the Substan	ce or Mixture:				
2.2	Label El	ements:					
	GHS S	ignal Word:	None				
		lazard Phrases:					
			ntly available data this sub	stance or mixture is n	ot classifiable ac	cording to GHS.	
		Precautionary Phrase	S:				
	-	ases apply. Response Phrases:					
		ases apply.					
	-	Storage and Disposal	Phrases:				
			Storage and Section 13 for	Disposal information	l.		
	UFI:						
2.3	Adverse	e Human Health Ma	aterial may be irritating to t	he mucous membran	es and upper res	piratory tract.	
	Effects		ay be harmful by inhalation	-	-		
			ay cause eye, skin, or resp			haan tharoughly investigated	
					-	been thoroughly investigated.	
		1	n 3. Composition	1			
CAS RTE		Hazardous Compone REACH Registration	ents (Chemical Name)/ No.	Concentration	EC No./ EC Index No.	GHS Classification	
264 NA	5-08-1	N-Alpha-Benzoyl-L-Argir Hydrochloride	nine Ethyl Ester	100.0 %	220-157-0 NA	No data available.	



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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 15 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 15 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.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
5.2	Flammable Properties an	d No data available.
	Hazards:	
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid breathing vapors and provide adequate ventilation.
	Protective Equipment and	d 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		r Contain spill and collect, as appropriate.
	Containment and Cleanin	ng 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.
7.2	Precautions To Be Taken	Keep container tightly closed.
	in Storing:	Store in accordance with information listed on the product insert.
	Sec	tion 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	
8.2	Exposure Controls:	
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.



	(Ventilation etc.):						
8.2.2	Personal protection equip	pment:					
	Eye Protection:	Safety glasses					
	-						
	Protective Gloves:	Compatible chemical-resistant gloves					
	Other Protective Clothing						
	Respiratory Equipment NIOSH approved respirator, as conditions warrant.						
	(Specify Type):						
	Work/Hygienic/Maintenan	-	. .				
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a s	safety				
		shower.					
		Wash thoroughly after handling.					
		No data available.					
	S	ection 9. Physical and Chemical Properties					
9.1	Information on Basic Phys	sical and Chemical Properties					
	Physical States:	[]Gas []Liquid [X]Solid					
	Appearance and Odor:	A lyophilized powder					
	pH:	No data.					
	Melting Point:	No data.					
	Boiling Point:	No data.					
	Flash Pt:	No data.					
	Evaporation Rate:	No data.					
	Flammability (solid, gas):	No data available.					
	Explosive Limits:	LEL: No data. UEL: No data.					
	Vapor Pressure (vs. Air o	r mm No data.					
	Hg):						
	Vapor Density (vs. Air = 1): No data.					
	Specific Gravity (Water =	1): No data.					
	Solubility in Water:	No data.					
	Solubility Notes:	Soluble in: water;					
	Octanol/Water Partition	No data.					
	Coefficient:						
	Autoignition Pt:	No data.					
	Decomposition Temperat						
	Viscosity:	No data.					
9.2	Other Information						
0.2	Percent Volatile:	No data.					
		Section 10. Stability and Reactivity					
10.1	Reactivity:	No data available.					
10.2	Stability:	Unstable [] Stable [X]					
10.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.					
	Polymerization:	Will occur [] Will not occur [X]					
10.4	Conditions To Avoid:	No data available.					
10.4	Incompatibility - Materials						
10.5	To Avoid:	s strong oxidizing agents					
10.6	Hazardous	carbon dioxide					
		carbon					
		Multi-region	۱ format				
<u> </u>							



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Decomposition or			hydrogen chloride gas						
Byproducts:		icts:	nitrogen oxides						
	Section 11. Toxicological Information								
1.1	Informat Toxicolo	ion on ogical Effects:	The toxicological effects of this product have not been thoroughly studied.						
			nponents (Chemical Name) NTP IARC				OSHA		
2645-08-1 N-Alpha-Benzoyl-L-/			L-Arginine Ethyl Ester Hydroch	oride n.a.	n.a.	n.a.	n.a.		
			Section 12. Ecol	ogical Inform	ation				
2.1	Toxicity	:	Avoid release into the environr Runoff from fire control or dilut		e pollution.				
2.2	Persiste Degrada		No data available.						
12.3 Bioaccumulative No data available. Potential:									
2.4	Mobility	in Soil:	No data available.						
2.5	Results assessn		No data available.						
12.6	Other ac	lverse effects:	No data available.						
			Section 13. Dispo	sal Consider	ations				
3.1	Waste D	isposal Method:	Dispose in accordance with loc						
			Section 14. Trar	nsport Inform	ation				
14.1	LAND T	RANSPORT (US D		•					
D		r Shipping Name:	Not dangerous goods.						
D	OT Hazaro	d Class:							
U	N/NA Num								
14.1		RANSPORT (Euro							
	N Number	nipping Name: 	Not dangerous goods.						
-	azard Cla								
14.3		NSPORT (ICAO/I	ATA):						
		Shipping Name:	Not dangerous goods.						
	N Number			Packing Gr	oup:				
Addit	azard Clastional Trai		Transport in accordance with I	ocal, state, and fede	eral regulations.				
Infor	mation:								
			Section 15. Regu		ation				
	SARA (Su	- i	ents and Reauthorization Act	-					
	-		oonents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313	3 (TRI)		
CAS	-		L-Arginine Ethyl Ester	No	No	No			



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CAS # Hazardous Components (Chemical Name)		Other US EPA or State Lists		
N-Alpha-Benzoyl-L-Arginine Ethyl Ester Hydrochloride		CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No		
ormation	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.			
	Section 16. Oth	er Information		
	01/07/2020			
ormation About	No data available.			
cy or Disclaimer:	currently available to us. However express or implied, with respect	s believed to be accurate and represents the best information er, we make no warranty of merchantability or any other warranty, to such information, and we assume no liability resulting from its wn investigations to determine the suitability of the information for		
	N-Alpha-Benzoyl Hydrochloride ormation	N-Alpha-Benzoyl-L-Arginine Ethyl Ester Hydrochloride This SDS was prepared in accor No.1272/2008. Section 16. Oth 01/07/2020 wrmation About No data available. Cy or Disclaimer: DISCLAIMER: This information i currently available to us. Howeve express or implied, with respect use. Users should make their or		



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	according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015					
		Section 1. Ic	dentification of the Substan	ce/Mixture and of t	he Company/Ur	ndertaking
1.1	Product Product		700564 PAD Stop Solution			
1.2	Relevan	t identified uses of	the substance or mixture a	nd uses advised ag	gainst:	
	Releva	ant identified uses:	For research use only, no	ot for human or veteri	inary use.	
1.3	Details of	of the Supplier of th	ne Safety Data Sheet:			
	Comp	any Name:	Cayman Chemical Comp 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	any		
	Web s	ite address:	www.caymanchem.com			
	Inform	ation:	Cayman Chemical Comp	any	+1 (734	4)971-3335
1.4	Emerge	ncy telephone num	ber:			
	Emerg	ency Contact:	CHEMTREC Within USA			0)424-9300
			CHEMTREC Outside US			3)527-3887
			Section 2. Haz	zards Identific	ation	
2.1		cation of the Substa	ance or Mixture:			
2.2	Label El	ements:				
		ignal Word:	None			
		lazard Phrases:				
			rently available data this subs	stance or mixture is n	tot classifiable ac	cording to GHS.
		Precautionary Phras rases apply.	Ses:			
	-	Response Phrases:				
		rases apply.				
	-	Storage and Dispos	al Phrases:			
			or Storage and Section 13 for	Disposal information	1.	
	UFI:					
2.3	Advers	e Human Health	Material may be irritating to th	ne mucous membran	es and upper res	piratory tract.
	Effects	and Symptoms:	May be harmful by inhalation	, ingestion, or skin at	osorption.	
			May cause eye, skin, or respi			
			To the best of our knowledge	, the toxicological pro	operties have not	been thoroughly investigated.
		Section	on 3. Composition	Information o	on Ingredier	nts
CAS	#/	Hazardous Compo	onents (Chemical Name)/	Concentration	EC No./	GHS Classification
RTE	CS #	REACH Registration	on No.		EC Index No.	
	32-04-3 95800	Sodium citrate 01-2119457027-40		10.0 -25.0 %	NA NA	No GHS classifications apply.



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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 15 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 15 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.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing	a A solid water stream may be inefficient.
	Media:	
5.2	Flammable Properties an	idNo data available.
	Hazards:	
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
5.3	-	s: 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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid breathing vapors and provide adequate ventilation.
	Protective Equipment an	d 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 Fo	r Contain spill and collect, as appropriate.
	Containment and Cleanir	ng Transfer to a chemical waste container for disposal in accordance with local regulations.
	Up:	
		Section 7. Handling and Storage
7.1	Precautions To Be Taker	Avoid breathing dust/fume/gas/mist/vapours/spray.
	in Handling:	Avoid prolonged or repeated exposure.
7.2		Avoid breathing dust/fume/gas/mist/vapours/spray.
	in Storing:	Avoid prolonged or repeated exposure.
	Sec	tion 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	•
8.2	Exposure Controls:	
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne
0.2.1		levels below recommended exposure limits.



	(Ventilation etc.):	·						
8.2.2		mont						
0.2.2								
	-	Safety glasses						
	Protective Gloves: Compatible chemical-resistant gloves							
	Other Protective Clothing:Lab coat							
	Respiratory Equipment NIOSH approved respirator, as conditions warrant.							
	(Specify Type):							
	Work/Hygienic/Maintenan	-						
		acilities storing or utilizing this material should be equipped with an eyewash facility and a safety						
		shower.						
		Wash thoroughly after handling.						
		No data available.						
	Se	ection 9. Physical and Chemical Properties						
9.1	Information on Basic Phys	ical and Chemical Properties						
	Physical States:	[]Gas [X]Liquid []Solid						
	Appearance and Odor:	A citrate solution						
	pH:	No data.						
	Melting Point:	No data.						
	Boiling Point:	No data.						
	Flash Pt:	No data.						
	Evaporation Rate:	No data.						
	Flammability (solid, gas):	No data available.						
	Explosive Limits:	LEL: No data. UEL: No data.						
	Vapor Pressure (vs. Air or	mm No data.						
	Hg):							
	Vapor Density (vs. Air = 1)	: No data.						
	Specific Gravity (Water = 1	I): No data.						
	Solubility in Water:	No data.						
	Octanol/Water Partition	No data.						
	Coefficient:							
	Autoignition Pt:	No data.						
	Decomposition Temperatu	ire: No data.						
	Viscosity:	No data.						
9.2	Other Information							
	Percent Volatile:	No data.						
		Section 10. Stability and Reactivity						
10.1	Popotivity	No data available.						
10.1		Unstable [] Stable [X]						
10.2	•	Stable if stored in accordance with information listed on the product insert.						
		Will occur [] Will not occur [X]						
	-							
10.4		No data available.						
10.5	Incompatibility - Materials	strong oxidizing agents						
	To Avoid:							
10.6		carbon dioxide						
	Decomposition or	carbon monoxide						
		sodium oxides						
<u>.</u>		Multi-region forn						



	Byprodu	icts:							
			Sectio	n 11. Toxico	ological Ir	nform	ation		
11.1	Informat		The toxicolog	gical effects of this	product have	not bee	n thoroughly stu	udied.	
		gical Effects:							
Carciı	nogenicity	/:	NTP? No	IARC Monograp	ohs? No (OSHA R	egulated? No		
CAS	#	Hazardous Com	ponents (Che	emical Name)		NTP	IARC	ACGIH	OSHA
613	6132-04-3 Sodium citrate				I	n.a.	n.a.	n.a.	n.a.
	Section 12. Ecological Information								
12.1	Toxicity	:	Avoid release	Avoid release into the environment.					
			Runoff from	fire control or diluti	ion water may	cause p	ollution.		
12.2	Persiste		No data avai	lable.					
	Degrada	-							
12.3		mulative	No data avai	lable.					
	Potentia								
12.4	Mobility		No data avai						
12.5	assessn	of PBT and vPvB	No data avai	liable.					
12.6		lverse effects:	No data avai	ilable.					
			Sectio	n 13. Dispo	sal Cons	idorat	ione		
13.1	Waste D	isposal Method:		ccordance with loc					
	Waste D		-		-		-		
				ion 14. Trar	isport ini	ormai	lion		
14.1		RANSPORT (US D	-						
	-	Shipping Name:	Not dang	gerous goods.					
	OT Hazaro N/NA Num								
14.1		RANSPORT (Euro		יחו					
		hipping Name:	-	gerous goods.					
	N Number		Not duri	gereue geeue.					
	azard Clas								
14.3		NSPORT (ICAO/I	ATA):						
IC	ΑΟ/ΙΑΤΑ	Shipping Name:	Not dan	gerous goods.					
UI	N Number	:			Pack	ing Groເ	ıp:		
	azard Clas								
	ional Trar	nsport	Transport in	accordance with l	ocal, state, an	d federa	l regulations.		
Inform	mation:								
			Section	on 15. Regu	latory Inf	orma	tion		
	-	perfund Amendm						1	
CAS		Hazardous Com	ponents (Che	emical Name)	S. 302 (El	HS)	S. 304 RQ		B (TRI)
613	2-04-3	Sodium citrate			No		No	No	
	Multi-region format								



CHEMICAL			Supersedes Revision: 06/04/2016		
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA or State Lists		
6132-04-3	Sodium citrate		CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No		
Regulatory Information Statement:		This SDS was prepared in acco No.1272/2008.	ordance with 29 CFR 1910.1200 and Regulation (EC)		
		Section 16. Oth	ner Information		
Revision Date	:	01/07/2020			
Additional Info This Product:	ormation About	No data available.			
Company Poli	cy or Disclaimer:	currently available to us. However express or implied, with respect	is believed to be accurate and represents the best information ver, we make no warranty of merchantability or any other warranty, t to such information, and we assume no liability resulting from its own investigations to determine the suitability of the information for		



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	accordin	g to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/83	30 and US OSHA HCS 2015	
	Section 1. I	dentification of the Substance/Mixture and of the	ne Company/Undertaking	
1.1	Product Code:	700565		
	Product Name:	PAD Ammonia Detector		
1.2	Relevant identified uses of	f the substance or mixture and uses advised ag	ainst:	
	Relevant identified uses:	For research use only, not for human or veteri	nary use.	
1.3	Details of the Supplier of t	he Safety Data Sheet:		
	Company Name:	Cayman Chemical Company		
		1180 E. Ellsworth Rd.		
	Web site address:	Ann Arbor, MI 48108 www.caymanchem.com		
	Information:	Cayman Chemical Company	+1 (734)971-3335	
1.4	Emergency telephone nun			
1.4	Emergency Contact:	CHEMTREC Within USA and Canada:	+1 (800)424-9300	
	Emorgonoy contact.	CHEMTREC Outside USA and Canada:	+1 (703)527-3887	
		Section 2. Hazards Identific		
	Classification of the Subst			
2.1				
	Acute Toxicity: Oral, Cat Skin Corrosion/Irritation			
	Serious Eye Damage/Eye			
	Skin Sensitization, Categ			
		oxicity (single exposure), Category 3		
	Aquatic Toxicity (Acute)	oxicity (single exposure), Category 3 , Category 1		
	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni	oxicity (single exposure), Category 3 , Category 1		
2.2	Aquatic Toxicity (Acute)	oxicity (single exposure), Category 3 , Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni	oxicity (single exposure), Category 3 , Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni	oxicity (single exposure), Category 3 , Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni	oxicity (single exposure), Category 3 , Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements:	oxicity (single exposure), Category 3 , Category 1 ic), Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements:	oxicity (single exposure), Category 3 , Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases:	oxicity (single exposure), Category 3 , Category 1 ic), Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed.	oxicity (single exposure), Category 3 , Category 1 c), Category 1 Danger		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases:	oxicity (single exposure), Category 3 , Category 1 ic), Category 1		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin	oxicity (single exposure), Category 3 , Category 1 ic), Category 1 Oxicity (single exposure), Category 3 ic), Category 1 Oxicity (single exposure), Category 3 ic), Category 1 Oxicity (single exposure), Category 3 Oxicity (single exposure),		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerge	A burns and eye damage. gic skin reaction. e damage.		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye	A burns and eye damage. gic skin reaction. e damage. ory irritation.		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati	A burns and eye damage. gic skin reaction. e damage. ory irritation.		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati	A category 1 (c), Category 1 (
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra	A category 1 (c), Category 1 (
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra	A category 1 c), Category 1 c), Category 1 Comparison Danger Danger burns and eye damage. gic skin reaction. a damage. ory irritation. c life. c life with long lasting effects. ses: st/fume/gas/mist/vapors/spray}.		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra P260: Do not breathe {dus P264: Wash {hands} thore	A category 1 c), Category 1 c), Category 1 Comparison Danger Danger burns and eye damage. gic skin reaction. a damage. ory irritation. c life. c life with long lasting effects. ses: st/fume/gas/mist/vapors/spray}.	e.	
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra P260: Do not breathe {dus P264: Wash {hands} thore	oxicity (single exposure), Category 3 , Category 1 ic), Category 1 ic), Category 1 Danger a burns and eye damage. gic skin reaction. e damage. ory irritation. c life. c life with long lasting effects. sess: st/fume/gas/mist/vapors/spray}. oughly after handling. c lothing should not be allowed out of the workplace	e.	
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra P260: Do not breathe {dus P264: Wash {hands} thoro P272: Contaminated work P273: Avoid release to the	oxicity (single exposure), Category 3 , Category 1 ic), Category 1 ic), Category 1 Danger a burns and eye damage. gic skin reaction. e damage. ory irritation. c life. c life with long lasting effects. sess: st/fume/gas/mist/vapors/spray}. oughly after handling. c lothing should not be allowed out of the workplace		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra P260: Do not breathe {dus P264: Wash {hands} thoro P272: Contaminated work P273: Avoid release to the	oxicity (single exposure), Category 3 , Category 1 (c), Category 1 (c), Category 1 Danger a burns and eye damage. gic skin reaction. e damage. ory irritation. c life. c life with long lasting effects. sess: st/fume/gas/mist/vapors/spray}. oughly after handling. clothing should not be allowed out of the workplace environment. oves/protective clothing/eye protection/face protection		
2.2	Aquatic Toxicity (Acute) Aquatic Toxicity (Chroni Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H317: May cause an allerg H318: Causes serious eye H335: May cause respirate H400: Very toxic to aquati H410: Very toxic to aquati H410: Very toxic to aquati GHS Precautionary Phra P260: Do not breathe {dus P264: Wash {hands} thoro P272: Contaminated work P273: Avoid release to the P280: Wear {protective glo	oxicity (single exposure), Category 3 , Category 1 (c), Category 1 (c), Category 1 Danger a burns and eye damage. gic skin reaction. e damage. ory irritation. c life. c life with long lasting effects. sess: st/fume/gas/mist/vapors/spray}. oughly after handling. clothing should not be allowed out of the workplace environment. oves/protective clothing/eye protection/face protection	ion}.	



	Revision:	01/07/2020
persedes	Revision:	06/04/2016

Cay	man					Revision: 01/07/2020 Supersedes Revision: 06/04/2016		
_			KIN (or hair): Remove/take off	immediately all cont				
	water/shower.							
	P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.							
	P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy							
	to do. Continue rinsing.							
	P321: Specific treatment {see on this label}.							
		Rinse mouth.	. ,					
	P333-	+313: If skin irritatio	n or rash occurs, seek medica	I advice/attention.				
	P362+364: Take off contaminated clothing and wash it before reuse.							
		P363: Wash contaminated clothing before reuse.						
	P391: Collect spillage.							
	GHS Storage and Disposal Phrases:							
			for Storage and Section 13 for	r Disposal informatic	n			
			TO Storage and Section 13 to	i Disposal informatio	л.			
	UFI:							
2.3	Advers	e Human Health	Causes serious eye damage	e.				
	Effects	and Symptoms:	Causes severe skin burns and eye damage.					
			Material may be irritating to the mucous membranes and upper respiratory tract.					
			May be harmful by inhalation					
			May cause an allergic skin reaction.					
	May cause respiratory system irritation.							
	Toxic if swallowed.							
	Very toxic to aquatic life with long lasting effects.							
			To the best of our knowledge	e, the toxicological p	roperties have no	t been thoroughly investigated.		
		Sec	tion 3. Compositior	/Information	on Ingredie	nts		
CAS	#/	1	ponents (Chemical Name)/	Concentration	EC No./	GHS Classification		
	CS #	REACH Registra			EC Index No.			
NA	(Trade Secret)NA			100.0 %	NA	Acute Tox.(O) 4: H302		
NA					NA	Skin Corr. 2: H315		
						Eye Damage 2: H319		
						STOT (SE) 3: H335 H336		
			Section 4. Fi	rst Aid Meas	ures			
4.1	Descri	otion of First Aid						
	Measu	Measures:						
	In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give					ve oxvgen 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 contaminate							
	clothing. Get medical attention if symptoms occur. Wash clothing before reuse.							
	In Case of Eye Contact: Hold eyelids apart and flush eyes and tested by medical personnel					5 minutes. Have eyes examined		
	In Case of Ingestion: Wash out mouth with water prov			-	-			
				dical attention. Do N	IOT induce vomitii	ng unless directed to do so by		
			medical personnel.					
4.2	-		d Exposure may cause: burnin		ng, wheezing, lary	ngitis, shortness of breath,		
		, Both Acute and	headache, nausea, and vom	-				
	Delaye	d:	Exposure may cause: centra		pression, headacl	he, nausea, and vomiting.		
			Exposure may cause sensitiz	zation.				



Multi-region format

	HEMICAL	Supersedes Revision: 06/04/2016							
		Section 5. Fire Fighting Measures							
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.							
	Media:	Use water spray to cool fire-exposed containers.							
	Unsuitable Extinguishing	A solid water stream may be inefficient.							
	Media:								
5.2	Flammable Properties andNo data available.								
	Hazards:								
	No data available. Flash Pt: No data.								
	Explosive Limits:	LEL: No data. UEL: No data.							
	Autoignition Pt:	No data.							
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.							
		Section 6. Accidental Release Measures							
6.1	Protective Precautions,	Avoid raising and breathing dust, and provide adequate ventilation.							
	• •	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).							
5.2	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 CleaningTransfer to a chemical waste container for disposal in accordance with local regulations. Up:								
	ор.								
		Section 7. Handling and Storage							
7.1		Avoid breathing dust/fume/gas/mist/vapours/spray.							
	in Handling:	Avoid prolonged or repeated exposure.							
7.2		Keep container tightly closed.							
	in Storing:	Store in accordance with information listed on the product insert.							
	Sect	tion 8. Exposure Controls/Personal Protection							
3.1	Exposure Parameters:								
3.2	Exposure Controls:								
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborn							
	(Ventilation etc.):	levels below recommended exposure limits.							
8.2.2	Personal protection equi								
	Eye Protection:	Safety glasses							
	Protective Gloves:	Compatible chemical-resistant gloves							
	Other Protective Clothing:Lab coat								
	Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.							
	Work/Hygienic/Maintenan	Do not take internally.							
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety							
		shower.							
		Wash thoroughly after handling.							
		No data available.							
		Multi region for							



Multi-region format

		Supersedes F	Revision: 06/04/2016				
	See	ction 9. Physical and Chemical Properties					
9.1	Information on Basic Physical and Chemical Properties						
	Physical States:	[]Gas []Liquid [X]Solid					
	Appearance and Odor:	A lyophilized powder					
	pH:	No data.					
	Melting Point:	No data.					
	Boiling Point:	No data.					
	Flash Pt:	No data.					
	Evaporation Rate:	No data.					
	Flammability (solid, gas):	No data available.					
	Explosive Limits:	LEL: No data. UEL: No data.					
	Vapor Pressure (vs. Air or r	mm No data.					
	Hg):						
	Vapor Density (vs. Air = 1):	No data.					
	Specific Gravity (Water = 1)): No data.					
	Solubility in Water:	No data.					
	Octanol/Water Partition	No data.					
	Coefficient:						
	Autoignition Pt:	No data.					
	Decomposition Temperatur	re: No data.					
	Viscosity:	No data.					
9.2	Other Information						
	Percent Volatile:	No data.					
		Section 10. Stability and Reactivity					
10.1	Reactivity:	No data available.					
10.2	•	Unstable [] Stable [X]					
10.3	-	Stable if stored in accordance with information listed on the product insert.					
	• • • •	Will occur [] Will not occur [X]					
10.4		No data available.					
10.5	Incompatibility - Materials alkali metals						
		amines					
		bases					
	r	reducing agents					
	o	oxidizing agents					
10.6	Hazardous c	carbon dioxide					
	Decomposition or C	carbon monoxide					
	Byproducts: S	sulfur oxides					



			Section 17	1. Toxicologi	cal Informa	ation			
11.1	Informat	ion on	The toxicological e	effects of this produ	ct have not beer	n thoroughly st	udied.		
	Toxicolo	gical Effects:	o-Phthalaldehyde	- Toxicity Data: Sub	ocutaneous T	DLO (mouse):	1.2 mg/kg/6D	(intermittent);	
	Chronic	Toxicological	Only select Regist	ry of Toxic Effects of	of Chemical Sub	stances (RTE	CS) data is pre	sented here.	
	Effects:		See actual entry in RTECS for complete information.						
			o-Phthalaldehyde	RTECS Number: T	H6950000				
CAS			ponents (Chemica	Il Name)	NTP	IARC	ACGIH	OSHA	
	NA	(Trade Secret)			n.a.	n.a.	n.a.	n.a.	
			Section 7	12. Ecologica	al Informat	ion			
12.1	Toxicity	:	Avoid release into						
			Runoff from fire co	ontrol or dilution wat	er may cause p	ollution.			
12.2	Persiste		No data available.						
	Degrada	bility:							
12.3		mulative	No data available.						
	Potentia								
12.4	Mobility		No data available.						
12.5			No data available.						
10.0	assessn		No data available.						
12.6	Other ad	lverse effects:			<u> </u>				
				3. Disposal (
13.1	Waste D	isposal Method:	Dispose in accord	ance with local, sta	te, and federal r	egulations.			
			Section	14. Transpo	rt Informat	ion			
14.1	LAND T	RANSPORT (US D	ЮТ):						
D	OT Prope	r Shipping Name:	CORROSIVE	SOLID, TOXIC, N.	O.S. (o-Phthalal	dehyde)			
D	OT Hazaro	d Class:	8 (6.1)	CORROSIVE,					
U	N/NA Num	nber:	UN2923		Packing Grou	ıp:	III		
				-					
			CORROSIVE 8	POISON 6					
14.1		RANSPORT (Euro							
		nipping Name:		SOLID, TOXIC, N.	•	•			
_	N Number		2923		Packing Grou	ıp:	III		
	azard Clas		Υ Υ	ROSIVE, POISON					
14.3		NSPORT (ICAO/I	-		O.C. (a Dhthala	ldebyde)			
	AO/IATA N Number	Shipping Name:	2923	SOLID, TOXIC, N.			Ш		
_	azard Clas			ROSIVE POISON	Packing Grou	-	8,6.1	I	
	tional Trar		8 (6.1) - CORROSIVE, POISON IATA Classification: 8,6.1 Transport in accordance with local, state, and federal regulations.						
	mation:		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.						
				ing does not have t			-		



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		· · · · · ·					
		ents and Reauthorization Act	-	0.004.50	0.240 (TD)		
AS #		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ No	S. 313 (TRI)		
NA (Trade Secret)							
CAS # Hazardous Compo NA (Trade Secret)		ponents (Chemical Name)		Other US EPA or State Lists CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA			
			PROP.65: No	NO; CWA NPDES:	NO; TSCA: NO; CA		
egulatory In tatement:	nformation	This SDS was prepared in acc No.1272/2008.	ordance with 29 CFF	R 1910.1200 and R	egulation (EC)		
		Section 16. Ot	her Information	on			
evision Date	e:	01/07/2020					
	formation About	No data available.					
his Product	:	DISCLAIMER: This information					



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-	CHEMICAL	accord	ng to Regulation (EC) No. 1907/2006 as a	amended by (EC) No. 2015		2015	
			Identification of the Substar				
1.1	Product C		700566			Ŭ	
	Product N	Name:	Ethanol Assay Reagent				
1.2	Relevant	identified uses of	of the substance or mixture a	and uses advised a	against:		
		nt identified uses					
1.3	Details of	the Supplier of	the Safety Data Sheet:				
		ny Name:	Cayman Chemical Com	bany			
			1180 E. Ellsworth Rd.				
			Ann Arbor, MI 48108				
		e address:	www.caymanchem.com			4074 0005	
	Informa		Cayman Chemical Comp	bany	+1 (73	4)971-3335	
1.4	-	cy telephone nu					
	Emerge	ency Contact:	CHEMTREC Within USA CHEMTREC Outside US		-)0)424-9300)3)527-3887	
						JUJUZI - JUUI	
			Section 2. Ha	zards identif	ication		
2.1			stance or Mixture:				
		able Liquids, Ca	tegory 2				
2.2	Label Ele	ments:					
		gnal Word: azard Phrases:	Danger				
	H225: H	lighly flammable	iquid and vapor.				
	GHS Precautionary Phrases:						
	P210: Keep away from {heat/sparks/open flames/hot surfaces} No smoking.						
	P280: V	Vear {protective g	loves/protective clothing/eye p	protection/face prote	ection}.		
		esponse Phrase					
	P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with						
	water/shower.						
	GHS Storage and Disposal Phrases: Please refer to Section 7 for Storage and Section 13 for Disposal information.						
	UFI:		Tor Storage and Section 13 to		011.		
2.3		Human Health	Material may be irritating to t	the muceus membr	anos and uppor ros	priratony tract	
2.3		nd Symptoms:	May be harmful by inhalation			spiratory tract.	
	Encots a	ind Oymptoms.	May cause eye, skin, or resp	-	-		
			• • •			t been thoroughly investigate	
		Sec	tion 3. Composition	/Information	on Ingredie	nts	
CAS	\$#/		oonents (Chemical Name)/	Concentration	EC No./	GHS Classification	
		REACH Registra			EC Index No.		
RTE							
RTE	4-17-5 E			100.0 %	200-578-6	Flam. Liq. 2: H225	



Multi-region format

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		Section 4. First Aid Measures
De	escription of First Aid	
Me	easures:	
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 contaminate 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 15 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.
Eff	portant Symptoms and fects, Both Acute and elayed:	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
	uitable Extinguishing edia:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
	nsuitable Extinguishing edia:	A solid water stream may be inefficient.
Fla	ammable Properties an	dCan release vapors that form explosive mixtures at temperatures at or above the flashpoint.
Ha	azards:	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.
Fla	ash Pt:	14.00 C Method Used: Closed Cup
Ex	plosive Limits:	LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
Au	utoignition Pt:	363.00 C
Fire	re 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
Pro	otective Precautions,	Avoid breathing vapors and provide adequate ventilation.
Pro	otective Equipment an	d As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,
Em	mergency Procedures:	and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
	nvironmental recautions:	Take steps to avoid release into the environment, if safe to do so.
	ontainment and Cleanir	r Contain spill and collect, as appropriate. ngTransfer to a chemical waste container for disposal in accordance with local regulations.



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				Superseues	s Revision: 06/10/20	
		(Section 7. Ha	andling and Storage		
.1	Precautions To Be Taken			• •		
	in Handling:		prolonged or repeate			
	U	Keep a	away from sources of	f ignition.		
	Take precautionary measures against static discharge.					
.2	Precautions To Be Taken	N Keep a	away from heat, spar	ks, and flame.		
	in Storing:	Keep o	container tightly close	ed.		
	Store in accordance with information listed on the product insert.					
	Other Precautions:	Hygro	scopic			
	Sec	tion 8	. Exposure C	Controls/Personal Protection		
.1	Exposure Parameters:					
CAS #	t Chemical Name		Jurisdiction	Recommended Exposure Limits	Notations	
64-17-	-5 Ethyl alcohol		ACGIH TLV	TLV: 1000 ppm STEL: 1000 ppm		
			France VL	TWA: 1900 mg/m3 (1000 ppm)		
				STEL: 9500 mg/m3 (5000 ppm)		
			OSHA PELs	PEL: 8H TWA:1000 ppm (1900 mg/m3)		
			Britain EH40	TWA: 1920 mg/m3 (1000 ppm) STEL: ()		
.2	Exposure Controls:				I	
.2.1	Engineering Controls	Use pr	ocess enclosures, lo	cal exhaust ventilation, or other engineering cont	rols to control airbo	
				our exhaust ventilation, or other engineering cont		
	(Ventilation etc.):	levels	below recommended			
.2.2	(Ventilation etc.): Personal protection equi		below recommended			
.2.2	Personal protection equi	ipment:				
.2.2	Personal protection equi Eye Protection:	pment: Safety	glasses	exposure limits.		
.2.2	Personal protection equi Eye Protection: Protective Gloves:	pment: Safety Compa	glasses atible chemical-resist	exposure limits.		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing	pment: Safety Compa g:Lab co	glasses atible chemical-resist pat	l exposure limits. ant gloves		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment	pment: Safety Compa g:Lab co	glasses atible chemical-resist pat	exposure limits.		
2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type):	ipment: Safety Compa g:Lab co NIOSH	glasses atible chemical-resist bat I approved respirator	l exposure limits. ant gloves		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF	glasses atible chemical-resist pat Happroved respirator t take internally.	l exposure limits. ant gloves		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type):	ipment: Safety Compa g:Lab co NIOSH n Do not Faciliti	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing	l exposure limits. ant gloves		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe	glasses atible chemical-resist bat Happroved respirator take internally. es storing or utilizing r.	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat Happroved respirator take internally. es storing or utilizing r.	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
3.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
3.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
8.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
3.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
3.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		
3.2.2	Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenar	ipment: Safety Compa g:Lab co NIOSF n Do not Faciliti showe Wash	glasses atible chemical-resist bat I approved respirator t take internally. es storing or utilizing r. thoroughly after hanc	l exposure limits. ant gloves , as conditions warrant. this material should be equipped with an eyewas		



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9.1	C.	
.1		ection 9. Physical and Chemical Properties
	Information on Basic Phys	sical and Chemical Properties
	Physical States:	[]Gas [X]Liquid []Solid
	Appearance and Odor:	Liquid
	pH:	No data.
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	14.00 C Method Used: Closed Cup
	Evaporation Rate:	No data.
	Flammability (solid, gas):	
	Explosive Limits:	LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
	Vapor Pressure (vs. Air o Hg):	r mm 43 MM_HG at 20.0 C
	Vapor Density (vs. Air = 1): No data.
	Specific Gravity (Water =	1): No data.
	Solubility in Water:	No data.
	Octanol/Water Partition	No data.
	Coefficient:	
	Autoignition Pt:	363.00 C
	Decomposition Temperat	rure: No data.
	Viscosity:	No data.
.2	Other Information	
	Percent Volatile:	No data.
	Molecular Formula & Weig	ght: C2H6O 46.1
		Section 10. Stability and Reactivity
0.1	Reactivity:	No data available.
0.2	Stability:	Unstable [] Stable [X]
0.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
	Polymerization:	Will occur [] Will not occur [X]
0.4	Conditions To Avoid:	heat, flames, and sparks
0.5	Incompatibility - Materials	-
0.0	To Avoid:	ammonia
		peroxides
		strong oxidizing agents
0.6	Hazardous	carbon monoxide
	Decomposition or	carbon dioxide



Revision: 01/07/2020 Supersedes Revision: 06/10/2019

	HEMICAL					S	upersedes Revis	sion: 06/10/201
			Section 11	. Toxicolog	gical Informat	tion		
11.1		on on gical Effects: Toxicological	Ethanol - Toxicity I (rat): 7,060 mg/kg; (rabbit): 6,300 mg/ ppm (30m); Inhalation LC Ethanol - Irritation Ethanol - Investigation and tumorigen.	Data: Oral TDLC Oral LD50 (mou kg; Inhalation LC tion TCLO (hum LO (mouse): 29 Data: Eyes (rabl ted as a drug, m ry of Toxic Effec RTECS for com	bit): 500 mg (24h) mi nutagen, natural prod ts of Chemical Subst nplete information.	Oral TDLO (r ral LD50 (mo n (10h); Inha 0m); Inhalati ild; Skin (rab luct, primary	man): 650 mg/k ouse): 10.5 ml/ Ilation TCLO (h on LC50 (rat): bit): 20 mg (24 irritant, reprod	kg; Oral LD50 numan): 1,800 5,900 mg/m3 h) moderate; luctive effector
CAS	#	Hazardous Com	ponents (Chemica	l Name)	NTP	IARC	ACGIH	OSHA
64	-17-5	Ethyl alcohol			n.a.	1	A4	n.a.
	•••••		Section 1	2. Ecologi	cal Informatio	 on	ł	•
12.1	Toxicity:		Avoid release into	ŭ				
	2		Runoff from fire control or dilution water may cause pollution.					
12.2	Persister Degradat		No data available.					
12.3	Bioaccun	nulative	No data available.					
12.4	Mobility i	n Soil:	No data available.					
12.5	Results o		3 No data available.					
12.6	Other adv	verse effects:	No data available.					
			Section 13	3. Disposa	Consideratio	ons		
13.1	Waste Di	sposal Method:	Dispose in accorda	ance with local, s	state, and federal reg	gulations.		
			Section	14. Transp	ort Informatio	on		
14.1	LAND TR	ANSPORT (US E	ООТ):					
D	OT Proper	Shipping Name:	Ethyl alcohol					
D	OT Hazard	Class:	3	FLAMMABLE	LIQUID			
U	N/NA Numl	ber:	UN1170		Packing Group	:	II	
			FLIGHMINGEE LIQUID					
14.1		RANSPORT (Euro						
	DR/RID Shi N Number:	ipping Name:	Ethyl alcohol 1170		Packing Group		п	
	N NUMDER:		3 - FLAMMAB		Packing Group	•	II	
		-	<u>_</u>					



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CHIMICAL				Superseu	les Revision. 00/10/2019	
14.3 AIR TRANSPORT (ICAO/		ATA):				
ICAO/IATA	Shipping Name:	Ethyl alcohol				
UN Number	:	1170	Packing Grou	p:	II	
Hazard Class:		3 - FLAMMABLE LIQUID	IATA Classific	cation:	3	
Additional Tran	nsport	Transport in accordance with loc	cal, state, and federal	regulations.		
Information:		When sold in quantities of less the	han or equal to 1 mL,	or 1 g, with an Exce	pted Quantity Code of	
		E1, E2, E4, or E5, this item mee		• •		
		Therefore packaging does not h	ave to be labeled as	Dangerous Goods/E>	cepted Quantity.	
		Section 15. Regula	atory Informat	ion		
EPA SARA (Su	perfund Amendm	nents and Reauthorization Act o	of 1986) Lists			
CAS #	Hazardous Com	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)	
64-17-5	Ethyl alcohol		No	No	No	
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA or S	itate Lists		
64-17-5	Ethyl alcohol		CAA HAP,ODC: No Inventory; CA PRO	o; CWA NPDES: No; DP.65: No	TSCA: Yes -	
Regulatory Info	rmation	This SDS was prepared in accor	dance with 29 CFR 1	910.1200 and Regulation	ation (EC)	
Statement:		No.1272/2008.				
		Section 16. Oth	er Informatior	ו		
Revision Date:		01/07/2020				
Additional Infor	mation About	No data available.				
This Product:						
Company Polic	y or Disclaimer:	DISCLAIMER: This information is currently available to us. However express or implied, with respect use. Users should make their ow their particular purposes.	er, we make no warra to such information, a	nty of merchantability and we assume no lia	y or any other warranty, ability resulting from its	



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			ng to Regulation (EC) No. 1907/2006 as a	• • •				
		Section 1.	Identification of the Substar	nce/Mixture and of	the Company/U	ndertaking		
.1	Product		700567		1 5	0		
	Product		CI-Amidine Inhibitor Assa	av Reagent				
	Synony	ms:	N-[(1S)-1-(aminocarbony		inoethyl)amino]but	tyl]-benzamide		
			2,2,2-trifluoroacetate;	, <u>-</u> ,				
.2	Relevant identified uses of the substance or mixture and uses advised against:							
		ant identified uses			-			
1.3	Details of the Supplier of the Safety Data Sheet:							
		any Name:	Cayman Chemical Comp	bany				
			1180 E. Ellsworth Rd.					
			Ann Arbor, MI 48108					
	Web s	site address:	www.caymanchem.com					
	Inform	nation:	Cayman Chemical Comp	bany	+1 (73	4)971-3335		
1.4	Emerge	ency telephone nu	mber:					
	Emerg	gency Contact:	CHEMTREC Within USA	and Canada:	+1 (80	00)424-9300		
			CHEMTREC Outside US	SA and Canada:	+1 (70)3)527-3887		
			Section 2. Haz	zards Identifi	cation			
2.1	Classifi	cation of the Subs	tance or Mixture:					
	Label Elements:							
2.2	Label E	lements:						
2.2			Nono					
2.2	GHS S	Signal Word:	None					
2.2	GHS S GHS I	Signal Word: Hazard Phrases:		stance er mixture is	not classifiable as	coording to CHS		
2.2	GHS S GHS I Based	Signal Word: Hazard Phrases: d on evaluation of cu	urrently available data this sub	stance or mixture is	not classifiable ad	ccording to GHS.		
2.2	GHS S GHS I Based GHS I	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phr	urrently available data this sub	stance or mixture is	not classifiable ad	ccording to GHS.		
2.2	GHS S GHS I Based GHS I No ph	Signal Word: Hazard Phrases: d on evaluation of co Precautionary Phra rases apply.	urrently available data this sub ases:	stance or mixture is	not classifiable ad	ccording to GHS.		
2.2	GHS S GHS I Based GHS I No ph GHS I	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra rases apply. Response Phrases	urrently available data this sub ases:	stance or mixture is	not classifiable ad	ccording to GHS.		
2.2	GHS S GHS I Based GHS I No ph GHS I No ph	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra arases apply. Response Phrases arases apply.	urrently available data this sub ases: s:	stance or mixture is	not classifiable ad	ccording to GHS.		
2.2	GHS S GHS I Based GHS I No ph GHS I No ph	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra mases apply. Response Phrases mases apply. Storage and Dispo	urrently available data this sub ases: s: osal Phrases:			ccording to GHS.		
2.2	GHS S GHS I Based GHS I No ph GHS I No ph	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra mases apply. Response Phrases mases apply. Storage and Dispo	urrently available data this sub ases: s:			ccording to GHS.		
2.2	GHS S GHS I Based GHS I No ph GHS I No ph	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra mases apply. Response Phrases mases apply. Storage and Dispo	urrently available data this sub ases: s: osal Phrases:			ccording to GHS.		
	GHS S GHS I Based GHS I No ph GHS I No ph GHS S Please UFI:	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra mases apply. Response Phrases mases apply. Storage and Dispo	urrently available data this sub ases: s: osal Phrases:	Disposal informatio	on.			
	GHS S GHS I Based GHS I No ph GHS S Please UFI: Advers	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra rases apply. Response Phrases arases apply. Storage and Dispo e refer to Section 7	urrently available data this sub- ases: s: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation	⁻ Disposal information he mucous membra n, ingestion, or skin	on. anes and upper res absorption.			
	GHS S GHS I Based GHS I No ph GHS S Please UFI: Advers	Signal Word: Hazard Phrases: d on evaluation of co Precautionary Phra arases apply. Response Phrases arases apply. Storage and Dispo e refer to Section 7	urrently available data this sub- ases: s: osal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp	Disposal information he mucous membra n, ingestion, or skin iratory system irrita	on. anes and upper res absorption. tion.	spiratory tract.		
	GHS S GHS I Based GHS I No ph GHS S Please UFI: Advers	Signal Word: Hazard Phrases: d on evaluation of co Precautionary Phra arases apply. Response Phrases arases apply. Storage and Dispo e refer to Section 7	urrently available data this sub- ases: s: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation	Disposal information he mucous membra n, ingestion, or skin iratory system irrita	on. anes and upper res absorption. tion.	spiratory tract.		
	GHS S GHS I Based GHS I No ph GHS S Please UFI: Advers	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra rases apply. Response Phrases arases apply. Storage and Dispo e refer to Section 7 se Human Health and Symptoms:	urrently available data this sub- ases: s: osal Phrases: for Storage and Section 13 for Material may be irritating to t May be harmful by inhalation May cause eye, skin, or resp	Disposal information he mucous membra n, ingestion, or skin iratory system irrita e, the toxicological p	on. anes and upper rea absorption. tion. properties have no	spiratory tract. t been thoroughly investigate		
2.3	GHS S GHS I Based GHS I No ph GHS I Please UFI: Advers Effects	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra arases apply. Response Phrases arases apply. Storage and Dispo e refer to Section 7 se Human Health and Symptoms: Section	urrently available data this sub- ases: s: 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 tion 3. Composition	Disposal information he mucous membra i, ingestion, or skin iratory system irrita e, the toxicological p /Information	on. anes and upper res absorption. tion. oroperties have no on Ingredie	spiratory tract. t been thoroughly investigate nts		
2.3	GHS S GHS I Based GHS I No ph GHS S Please UFI: Advers Effects	Signal Word: Hazard Phrases: d on evaluation of cu Precautionary Phra arases apply. Response Phrases arases apply. Storage and Dispo e refer to Section 7 se Human Health and Symptoms: Section	urrently available data this sub- ases: s: 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 tion 3. Composition	Disposal information he mucous membra n, ingestion, or skin iratory system irrita e, the toxicological p	on. anes and upper rea absorption. tion. properties have no	spiratory tract. t been thoroughly investigate		
2.2 2.3 CAS RTE	GHS S GHS I Based GHS I No ph GHS S Please UFI: Advers Effects	Signal Word: Hazard Phrases: d on evaluation of co Precautionary Phra mases apply. Response Phrases mases apply. Storage and Dispo e refer to Section 7 de Human Health and Symptoms: Sect Hazardous Comp	urrently available data this sub- ases: s: 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 tion 3. Composition bonents (Chemical Name)/ tion No.	Disposal information he mucous membra i, ingestion, or skin iratory system irrita e, the toxicological p /Information	on. anes and upper res absorption. tion. oroperties have no on Ingredie EC No./	spiratory tract. t been thoroughly investigate nts		



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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 15 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 15 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.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing	A solid water stream may be inefficient.
	Media:	
5.2	Flammable Properties an	d No data available.
	Hazards:	
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid raising and breathing dust, and provide adequate ventilation.
	Protective Equipment and	d 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		r Contain spill and collect, as appropriate.
		ng 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.
7.2	Precautions To Be Taken	Keep container tightly closed.
	in Storing:	Store in accordance with information listed on the product insert.
	Sec	tion 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	
8.2	Exposure Controls:	
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.



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	(Ventilation etc.):	
8.2.2	Personal protection equi	pment:
	Eye Protection:	Safety glasses
	Protective Gloves:	Compatible chemical-resistant gloves
	Other Protective Clothing	:Lab coat
	Respiratory Equipment	NIOSH approved respirator, as conditions warrant.
	(Specify Type):	
	Work/Hygienic/Maintena	Do not take internally.
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash and a safety sho
		Wash thoroughly after handling.
		No data available.
	S	ection 9. Physical and Chemical Properties
		· · · · · ·
9.1	-	sical and Chemical Properties
	Physical States:	[]Gas []Liquid [X]Solid
	Appearance and Odor:	A lyophilized solid
	pH: Molting Point:	No data.
	Melting Point:	No data.
	Boiling Point:	No data. No data.
	Flash Pt: Evanoration Pate:	No data. No data.
	Evaporation Rate:	
	Flammability (solid, gas)	LEL: No data. UEL: No data.
	Explosive Limits:	
	Vapor Pressure (vs. Air o	
	Hg): Vapor Density (vs. Air = ⁻	I): No data.
		,
	Specific Gravity (Water =	1): No data. No data.
	Solubility in Water:	
	Octanol/Water Partition Coefficient:	No data.
	Autoignition Pt:	No data.
	Decomposition Tempera	
	Viscosity:	No data.
9.2	Other Information	
	Percent Volatile:	No data.
	Molecular Formula & We	ght: C14H19CIN4O2 • CF3CO2H 424.8
		Section 10. Stability and Reactivity
10.1	Reactivity:	No data available.
10.2	Stability:	Unstable [] Stable [X]
10.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
	Polymerization:	Will occur [] Will not occur [X]
10.4	Conditions To Avoid:	No data available.
10.5	Incompatibility - Material	
	To Avoid:	strong bases
10.6	Hazardous	carbon dioxide
	Decomposition or	carbon monoxide
	Decomposition Of	hydrogen chloride



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	Byprodu	ıcts:	hydrogen fluoride				
			nitrogen oxides				
			Section 11. Toxico	ological Inforn	nation		
1.1	Informat Toxicolo	tion on ogical Effects:	The toxicological effects of this	s product have not be	een thoroughly stu	udied.	
CAS #	#	Hazardous Com	onents (Chemical Name) NTP IARC ACG				OSHA
0434	44-18-3	CI-Amidine (triflue	proacetate salt)	n.a.	n.a.	n.a.	n.a.
			Section 12. Ecol	ogical Informa	ation		
2.1	Toxicity	:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.				
2.2	Persiste Degrada		No data available.				
2.3	Bioaccu Potentia	mulative II:	No data available.				
2.4	Mobility		No data available.				
2.5	Results assessn		No data available.				
2.6	Other ac	verse effects:	No data available.				
			Section 13. Dispo	sal Considera	ations		
3.1	Waste D	isposal Method:	Dispose in accordance with lo	cal, state, and federa	l regulations.		
			Section 14. Trai	nsport Informa	ation		
4.1	LAND T	RANSPORT (US I		•			
D		r Shipping Name:	-				
	OT Hazaro						
	N/NA Nun	RANSPORT (Euro					
		hipping Name:	Not dangerous goods.				
	Number		U U				
U		r:					
_	azard Clas	ss:					
Ha 4.3	azard Clas	SS: ANSPORT (ICAO/I	-				
Ha 4.3 IC	AIR TRA	ss: NSPORT (ICAO/I Shipping Name:	ATA): Not dangerous goods.	Deaking Co	oup.		
Ha 14.3 IC UN	azard Clas	ss: ANSPORT (ICAO/I Shipping Name: r:	-	Packing Gr	oup:		
Ha I4.3 IC UN Ha Addit	Azard Clas AIR TRA AO/IATA N Number Azard Clas	ss: ANSPORT (ICAO/I Shipping Name: r: ss:	-	-	-		
Ha 4.3 C UN Ha Addit	AIR TRA AIR TRA AO/IATA N Number azard Clas	ss: ANSPORT (ICAO/I Shipping Name: r: ss:	Not dangerous goods. Transport in accordance with	local, state, and fede	ral regulations.		
Ha IA.3 IC UN Ha Addit	AZARD Clas AIR TRA AO/IATA N Number Azard Clas ional Tran nation:	ss: ANSPORT (ICAO/I Shipping Name: r: ss: nsport	Not dangerous goods. Transport in accordance with Section 15. Regu	local, state, and fede	ral regulations.		
Ha I4.3 IC UI Ha Addit	AZART Clas AIR TRA AO/IATA N Number Azard Clas ional Tran nation: SARA (Su	ss: ANSPORT (ICAO/I Shipping Name: r: ss: nsport perfund Amendm	Not dangerous goods. Transport in accordance with	local, state, and fede	ral regulations.	S 242	3 (TRI)



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CAS #	Hazardous Components (Chemical Name)		Other US EPA or State Lists			
1043444-18-3	CI-Amidine (triflu	oroacetate salt)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No			
Regulatory Information		This SDS was prepared in accor	rdance with 29 CFR 1910.1200 and Regulation (EC)			
Statement:		No.1272/2008.				
		Section 16. Oth	er Information			
Revision Date:		01/07/2020				
Additional Info	rmation About	No data available.				
This Product:						
Company Polic	y or Disclaimer:	currently available to us. Howeve express or implied, with respect	s believed to be accurate and represents the best information er, we make no warranty of merchantability or any other warranty, to such information, and we assume no liability resulting from its wn investigations to determine the suitability of the information for			



	Revision:	01/07/2020
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	accordi	ng to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/83	0 and US OSHA HCS 2015			
	Section 1.	Identification of the Substance/Mixture and of th	ne Company/Undertaking			
1	Product Code:	701451				
	Product Name:	PAD Assay Buffer (Ammonia)				
2	Relevant identified uses of	of the substance or mixture and uses advised aga	ainst:			
	Relevant identified uses	For research use only, not for human or veterin	nary use.			
.3	Details of the Supplier of the Safety Data Sheet:					
	Company Name:	Cayman Chemical Company				
		1180 E. Ellsworth Rd.				
	Web site address:	Ann Arbor, MI 48108				
	Information:	www.caymanchem.com Cayman Chemical Company	+1 (734)971-3335			
4	Emergency telephone nu		11 (104)311-0000			
4	Emergency Contact:	CHEMTREC Within USA and Canada:	+1 (800)424-9300			
	Emorgonoy contact.	CHEMTREC Outside USA and Canada:	+1 (703)527-3887			
		Section 2. Hazards Identification				
1	Classification of the Subs					
•	Toxic To Reproduction,					
2	Label Elements:					
2	Laber Elements.					
	GHS Signal Word: GHS Hazard Phrases:	Danger				
	H360: May damage fertili	ty or the unborn child.				
	GHS Precautionary Phrases:					
	P201: Obtain special instructions before use.					
	P202: Do not handle until all safety precautions have been read and understood.					
		loves/protective clothing/eye protection/face protection	on}.			
	GHS Response Phrases					
	P308+313: IF exposed or concerned: Get medical attention/advice. GHS Storage and Disposal Phrases:					
	Please refer to Section 7 for Storage and Section 13 for Disposal information.					
	UFI:					
3	Adverse Human Health	Material may be irritating to the mucous membrane	es and upper respiratory tract.			
	Effects and Symptoms:	May be harmful by inhalation, ingestion, or skin ab				
		May cause eye, skin, or respiratory system irritatio	n.			
		May damage fertility or the unborn child.				
		To the best of our knowledge, the toxicological pro	perties have not been thoroughly investigated			



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Section 3. Composition/Information on Ingredients								
CAS # / RTECS #		Hazardous Components (Chemical Name)/ REACH Registration No.		Concentration	EC No./ EC Index No.	GHS Classification		
1303-96-4 VZ2275000		Sodium Tetraborate, Decahydrate 01-2119490790-32-0000		1.91 %	215-540-4 005-011-01-1	Toxic Repro. 1B: H360		
		Calcium chloride 01-2119494219-28			NA NA	Eye Damage 2: H319		
	7732-18-5 Water ZC0110000 na			97.943 %	231-791-2 NA	No GHS classifications apply.		
	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.					
	In Case	of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 15 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.					
			Section 5. Fire Fighting Measures					
	Quitabl							
5.1 Suitable Extinguishing Use alcohol-resistant foam, carbon dioxide, water, or dry chem Media: Use water spray to cool fire-exposed containers. Unsuitable Extinguishing A solid water stream may be inefficient.				, or dry chemical	spray.			
				-				
	Media:		A solid water stream may be	inemcient.				
5.2	Flamma Hazard	-	d No data available.					
			No data available.					
	Flash P	Pt:	No data.					
	Explosi	ive Limits:	LEL: No data.	UEL: No da	ta.			
	Autoig	nition Pt:	No data.					
5.3	.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.							
			Section 6. Acciden	Ital Release N	leasures			
6.1 6.2	 Protective Precautions, Avoid raising and breathing dust, and provide adequate ventilation. Protective Equipment and 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). 							
Precautions:								
6.3	Method	Is and Material Fo	r Contain spill and collect, as	appropriate.				
	Containment and Cleaning Transfer to a chemical waste container for disposal in accordance with local regulations. Up:					with local regulations.		
						Multi-region format		
1						main-region format		



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					upersedes Revis				
		Section 7. I	Handling and	d Storage					
7.1	Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray.								
	in Handling: Avoid prolonged or repeated exposure.								
7.2	Precautions To Be Taken Kee	ep container tightly cl	osed.						
	in Storing: Sto	re in accordance with	n information listed	on the product insert.					
	Sectior	8. Exposure	Controls/Pe	ersonal Protectio	on				
3.1	Exposure Parameters:								
CAS	# Chemical Name	Jurisdiction	Recomm	ended Exposure Limits	S	Notations			
1303-	96-4 Sodium Tetraborate,	ACGIH TLV	TLV: 5 mg	g/m3					
Decal	hydrate								
	Francisco O contractor	France VL	TWA: 5 mg	g/m3					
3.2	Exposure Controls:		local avhauat van	tilation or other engines	ring controls to	control airbarr			
3.2.1		els below recommend		tilation, or other enginee					
3.2.2	(Ventilation etc.): level Personal protection equipme								
0.2.2									
	-	ety glasses	· · · · · · · · · · · · · · · · · · ·						
		mpatible chemical-res	sistant gloves						
Other Protective Clothing:Lab coat									
	-			Respiratory Equipment NIOSH approved respirator, as conditions warrant.					
	Respiratory Equipment NIC	OSH approved respiration	ator, as conditions v	warrant.					
	Respiratory Equipment NIC (Specify Type):		ator, as conditions v	varrant.					
	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do	not take internally.							
	Respiratory EquipmentNIC(Specify Type):Work/Hygienic/MaintenanWork/Hygienic/MaintenanDoce Practices:Fac	not take internally. cilities storing or utiliz	ing this material she	varrant. ould be equipped with ar	n eyewash and	l a safety show			
	Respiratory EquipmentNIC(Specify Type):Work/Hygienic/MaintenanCe Practices:FacWa	not take internally. cilities storing or utiliz sh thoroughly after h	ing this material she		n eyewash and	l a safety show			
	Respiratory EquipmentNIC(Specify Type):Work/Hygienic/MaintenanDoCe Practices:FacWaNo	not take internally. cilities storing or utiliz sh thoroughly after h data available.	ing this material sho andling.	ould be equipped with ar	n eyewash and	l a safety show			
	Respiratory Equipment NIC (Specify Type): NIC Work/Hygienic/Maintenan Do ce Practices: Fac Wa No Sect Sect	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic	ing this material sho andling. al and Chem		n eyewash and	I a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Vork/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No No No Sect Information on Basic Physical	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	l a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Vork/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No No Sect Information on Basic Physical Physical States: Vol	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop [] Gas [X]	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	l a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Vork/Hygienic/Maintenan Do Ce Practices: Fac Wa No No Sect Information on Basic Physical Physical States: Appearance and Odor:	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	l a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Vork/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Sect	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	I a safety show			
).1	Respiratory Equipment NIC (Specify Type): Vork/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: No	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0 No data.	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	l a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Vork/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Heiting Point:	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop [] Gas [X] Solution 8.0 No data. No data.	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	I a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Value	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0 No data. No data. No data.	ing this material sho andling. al and Chem perties	ould be equipped with ar	n eyewash and	l a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect No Information on Basic Physical Physical States: Appearance and Odor: PH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate:	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop [] Gas [X] Solution 8.0 No data. No data. No data. No data. No data.	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with ar	n eyewash and	I a safety show			
0.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Information, gas):	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0 No data. No data. No data. No data. No data. No data available	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with an	n eyewash and	l a safety show			
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0.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or main	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0 No data. No data. No data. No data. No data. No data available LEL: No data.	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with an	n eyewash and	l a safety show			
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0.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mn Hg): Vapor Density (vs. Air = 1):	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0 No data. No data. No data. No data. No data available LEL: No data. n No data. No data.	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with an	n eyewash and	l a safety show			
9.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mn Hg): Vapor Density (vs. Air = 1): Specific Gravity (Water = 1): Specific Gravity (Water = 1):	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop [] Gas [X] Solution 8.0 No data. No data. No data. No data. No data. No data available LEL: No data. n No data. No data. No data.	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with an	n eyewash and	I a safety show			
9.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mr Hg): Vapor Density (vs. Air = 1): Specific Gravity (Water = 1): Solubility in Water:	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop []Gas [X] Solution 8.0 No data. No data.	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with an	n eyewash and	I a safety show			
9.1	Respiratory Equipment NIC (Specify Type): Work/Hygienic/Maintenan Do Work/Hygienic/Maintenan Do Ce ce Practices: Fac Wa No Sect Information on Basic Physical Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mn Hg): Vapor Density (vs. Air = 1): Specific Gravity (Water = 1): Specific Gravity (Water = 1):	not take internally. cilities storing or utiliz sh thoroughly after h data available. ion 9. Physic and Chemical Prop [] Gas [X] Solution 8.0 No data. No data. No data. No data. No data. No data available LEL: No data. n No data. No data. No data.	ing this material sho andling. al and Chem perties Liquid [] Solic	ould be equipped with an	n eyewash and	I a safety show			



Cay	man		I AD Assay Dunch		,		ion: 01/07/2020 ion: 07/12/2017
9.2	Autoigniti Decompo Viscosity: Other Info Percent V	sition Temperatu rmation	No data. u re: No data. No data. No data.				
			Section 10. Stability an	d Reactiv	vitv		
10.1 10.2 10.3 10.4 10.5		lote(s): ation: s To Avoid:	No data available. Unstable [] Stable [X] Stable if stored in accordance with infor Will occur [] Will not occur [X] No data available. No data available.		-	insert.	
10.6	To Avoid: Hazardou Decompo Byproduc	s sition or	No data available.				
			Section 11. Toxicologica	al Informa	ation		
11.1	-	on on lical Effects: oxicological	The toxicological effects of this product Sodium Tetraborate, Decahydrate - Tox 2,660 mg/kg; Oral LD50 (mouse): 2 g/kg Sodium Tetraborate, Decahydrate - Inve reproductive effector. Only select Registry of Toxic Effects of See actual entry in RTECS for complete Sodium Tetraborate, Decahydrate RTE	cicity Data: Ora g; Intraperitone estigated as a Chemical Sub e information.	al LDLO (man) eal LD50 (mou n agricultural c stances (RTE)): 709 mg/kg; C lise): 2711 mg/l chemical, muta	kg; gen, and
CAS	#	Hazardous Com	oonents (Chemical Name)	NTP	IARC	ACGIH	OSHA
1303-96-4Sodium Tetrabor10035-04-8Calcium chloride		Sodium Tetrabora Calcium chloride Water	te, Decahydrate	n.a. n.a. n.a.	n.a. n.a. n.a.	n.a. n.a. n.a.	n.a. n.a. n.a.
			Section 12 Ecological			-	
12.1 12.2 12.3 12.4	 Persistence and Degradability: Bioaccumulative Potential: 		Section 12. Ecological Avoid release into the environment. Runoff from fire control or dilution water No data available. No data available.				
12.5 12.6	Results of assessme	f PBT and vPvB	No data available. No data available.				



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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 1	·						
DOT Prope	er Shipping Name	Not dangerous goods.					
DOT Hazar							
UN/NA Nur							
	RANSPORT (Euro						
UN Numbe	hipping Name:	Not dangerous goods.					
Hazard Cla							
14.3 AIR TR	ANSPORT (ICAO/	IATA):					
	Shipping Name:	Not dangerous goods.					
UN Numbe	er:		Packing Gr	oup:			
Hazard Cla							
Additional Tra	insport	Transport in accordance with lo	ocal, state, and fede	ral regulations.			
Information:							
		Section 15. Regu	latory Information	ation			
EPA SARA (S	uperfund Amendn	nents and Reauthorization Act	of 1986) Lists				
CAS #		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)		
1303-96-4		ate, Decahydrate	No	No	No		
10035-04-8	Calcium chloride		No	No	No		
7732-18-5	Water		No	No	No		
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA o	r State Lists			
1303-96-4							
10035-04-8	Calcium chloride		CAA HAP,ODC: PROP.65: No	No; CWA NPDES:	: No; TSCA: No; CA		
7732-18-5	7732-18-5 Water CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No						
Regulatory Inf	ormation	This SDS was prepared in acco	ordance with 29 CFF	R 1910.1200 and R	egulation (EC)		
Statement:		No.1272/2008.					
Section 16. Other Information							
Revision Date:							
Additional Info	ormation About	No data available.					
This Product:							
Company Poli	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.					
		- Friend Friedman					
Multi-region format							

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