

		Identification of the Substance/Mixture and of the Company/Undertaking
.1	Product Code:	701842
• •	Product Name:	Caspase 1 Substrate (Ac-YVAD-AFC)
2		of the substance or mixture and uses advised against:
.2	Relevant identified uses of	-
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1.3	Details of the Supplier of	-
	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	Emergency telephone nu	mber:
	Emergency Contact:	CHEMTREC Within USA and Canada: +1 (800)424-9300
		CHEMTREC Outside USA and Canada: +1 (703)527-3887
		Section 2. Hazards Identification
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2.1	Classification of the Subs	
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	Flammable Liquids, Cat	tance or Mixture:
	Flammable Liquids, Cat Label Elements: GHS Signal Word:	tance or Mixture: egory 4
	Flammable Liquids, Cat Label Elements: GHS Signal Word: GHS Hazard Phrases:	tance or Mixture: egory 4 Warning
	Flammable Liquids, Cat Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid	tance or Mixture: egory 4 Warning
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	Flammable Liquids, Cat Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid GHS Precautionary Phra P210: Keep away from {h	tance or Mixture: egory 4 Warning
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219137-85-6 NA       Ac-YVAD-AFC       0.14 %       NA       No data available.         07-69-6 PV6210000       Dimethyl sulfoxde, anhydrous 01-2119431362-50       99.86 %       200-664-3       Flam. Liq. 4: H227         Section 4. First Aid Measures         In Case of Inhalation: In Case of Inhalation: Cel immediate medical attention.         In Case of Skin Contact: In Case of Skin Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Remove conta clothing. Get medical attention if symptoms occur. Wash clothing before reuse.         In Case of Lye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes ex and tested by medical personnel.         In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to unconscicus person. Get medical attention. Do NOT induce vomiting unless directed to do s medical personnel.         4.2       Important Symptoms and Exposure may cause: hematuria or shortness of breath (dyspnea). Effects, Both Acute and Exposure may cause: identionial irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness. Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.         5.1       Suitable Extinguishing A solid water stream may be inefficient. Media: Use water spray to cool fire-exposed containers. Unsuitable Extinguishing A solid water stream may be inefficient. Media: 2.         Container explosion may occur under fire conditions. Ernits toxic fumes under fire conditions. Sensitive to static discharge. Vapors c	CAS # RTECS		lazardous Comp REACH Registrat	onents (Chemical Name)/ ion No.	Concentration	EC No./ EC Index No.	GHS Classification
PV6210000         01-2119431362-50         NA           Section 4. First Aid Measures           And colspan="2">Na           Section 4. First Aid Measures           And colspan="2">Na           Section 4. First Aid Measures           In Case of Inhalation:           Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained persore Get immediate medical attention.           In Case of Skin Contact:           Inmediately wash skin with soap and plenty of water for at least 15 minutes. Remove conta clothing. Get medical attention if symptoms occur. Wash clothing before reuse.           In Case of Skin Contact:           Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes ex and tested by medical personnel.           In Case of Ingestion:           Wash out mouth with water provided person is conscious. Never give anything by mouth to unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do a medical personnel.           Automotion 5. Fire Fighting Measures           Section 5. Fire Fighting Measures           Section 5. Fire Fighting Measures           Use autophol-resistant foam, carbon dioxide, water, or dry chemical spray.           Media:         Use autophol-resistant foam, c		7-85-6 A	Ac-YVAD-AFC		0.14 %		No data available.
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Emits toxic fumes under fire conditions. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back. No data available. Flash Pt: 89.00 C Method Used: Closed Cup Explosive Limits: LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C Autoignition Pt: 215.00 C 5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved	.2	Flammab	le Properties and		-	-	at or above the flashpoint.
Sensitive to static discharge.         Vapors can travel to a source of ignition and flash back.         No data available.         Flash Pt:       89.00 C         Method Used:       Closed Cup         Explosive Limits:       LEL:       3.5%       at 25.0 C         Autoignition Pt:       215.00 C         5.3       Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved)		Hazards:				tions.	
Vapors can travel to a source of ignition and flash back. No data available. Flash Pt: 89.00 C Method Used: Closed Cup Explosive Limits: LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C Autoignition Pt: 215.00 C 5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved							
No data available.         Flash Pt:       89.00 C         Method Used:       Closed Cup         Explosive Limits:       LEL:       3.5%       at 25.0 C       UEL:       42.0%       at 25.0 C         Autoignition Pt:       215.00 C       215.00 C       Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved)				-		sh hack	
Flash Pt:       89.00 C       Method Used:       Closed Cup         Explosive Limits:       LEL:       3.5%       at 25.0 C       UEL:       42.0%       at 25.0 C         Autoignition Pt:       215.00 C         5.3       Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved)				-		ST BACK.	
Explosive Limits:       LEL: 3.5% at 25.0 C       UEL: 42.0% at 25.0 C         Autoignition Pt:       215.00 C         5.3       Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved)		Flach Dt.			losed Cup		
Autoignition Pt:       215.00 C         5.3       Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved)					·	6 at 25.0.C	
5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved		-			0LL. 42.07	0 di 20.00	
					ained breathing an	paratus pressure-c	lemand (NIOSH approved or
Note: Combustible as diluted in dimethyl sulfoxide	.5	i në righ	ing instructions	equivalent), and full protectiv	e gear to prevent c	ontact with skin ar	

Multi-region format



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		Section 6. Accidental Release Measures
6.1	Protective Precautions, Protective Equipment and Emergency Procedures:	Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
6.2	Environmental Precautions:	Take steps to avoid release into the environment, if safe to do so.
6.3		Contain spill and collect, as appropriate. gTransfer to a chemical waste container for disposal in accordance with local regulations.
		Section 7. Handling and Storage
7.1	Precautions To Be Taken in Handling:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge.
7.2	Precautions To Be Taken	Keep away from heat, sparks, and flame.
	in Storing:	Keep container tightly closed.
	Other Precautions:	Store in accordance with information listed on the product insert. Hygroscopic
	Sect	tion 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	
8.2	Exposure Controls:	
8.2.1	Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
8.2.2	Personal protection equip	pment:
	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 and a safety shower Wash thoroughly after handling. No data available.

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nformation on Basic Physical a Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	[]Gas [X]Liquid []Solid A solution in DMSO No data. No data. 89.00 C Method Used: Closed Cup No data. No data.
Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	A solution in DMSO No data. No data. 89.00 C Method Used: Closed Cup No data. No data.
pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	No data. No data. No data. 89.00 C Method Used: Closed Cup No data. No data available.
Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	No data. No data. 89.00 C Method Used: Closed Cup No data. No data available.
Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	No data. 89.00 C Method Used: Closed Cup No data. No data available.
Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	89.00 C Method Used: Closed Cup No data. No data available.
Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	No data. No data available.
Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air or mm	No data available.
Explosive Limits: Vapor Pressure (vs. Air or mm	
Vapor Pressure (vs. Air or mm	
	LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
	0.37 MM_HG at 20.0 C
Hg):	
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Octanol/Water Partition	No data.
Coefficient:	
Autoignition Pt:	215.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.
Other Information	
Percent Volatile:	No data.
ç	Section 10. Stability and Reactivity
	ata available.
-	uble [ ] Stable [ X ]
-	e if stored in accordance with information listed on the product insert.
	ccur [ ] Will not occur [ X ]
•	flames, and sparks
	phorus halides
	g acids
•	metals
strong	g oxidizing agents
strong	g reducing agents
Hazardous carbo	n dioxide
Decomposition or carbo	n monoxide
Byproducts: sulfur	oxides
	Octanol/Water Partition         Soefficient:         Sutoignition Pt:         Decomposition Temperature:         Siscosity:         ther Information         Percent Volatile:         Stability:         Unstation         Stability:         Unstation         Stability:         Unstation         Stability:         Unstation         Stability:         Unstation         Stability:         Unstation         Stability:         Unstation:         Will or         Stability:         Stability:         Unstation:         Stability:         Unstation:         Stability:         Unstation:         Stability:         Stability:         Stability:         Stability:         Stability:         Stability:         Stability:         Strong         Strong         Strong         Strong         Strong         Strong         Strong         Strong         Strong

Multi-region format



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			Section 11. Toxicol	logical Informat	ion				
11.1	Informat Toxicolo	tion on ogical Effects:	The toxicological effects of this p DMSO - Toxicity Data: Oral LD5 (mouse): 7,920 mg/kg; Skin LD5	broduct have not been t 50 (rat): 14,500 mg/kg; \$ 50 (mouse): 50,000 mg/	horoughly st Skin LD50 (ra	at): 40,000 mg/	-		
			Inhalation LC50 (rat): >1,600 mg/m3 (4h); DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;						
	Chronic Toxicological		DMSO - Initiation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24n) mild; DMSO - Investigated as a mutagen, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.						
Effects:		U							
			See actual entry in RTECS for c	omplete information.					
			DMSO RTECS Number: PV621	0000					
CAS	#	Hazardous Com	oonents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
2191	37-85-6	Ac-YVAD-AFC		n.a.	n.a.	n.a.	n.a.		
		Dimethyl sulfoxide	e, anhydrous	n.a.	n.a.	n.a.	n.a.		
		ł	Section 12. Ecolo	gical Informatio	n		<b>!</b>		
12.1	Toxicity	:	Avoid release into the environme	-					
·	,		Runoff from fire control or dilutio		ution.				
12.2	Persiste	nce and	No data available.						
	Degrada	bility:							
12.3	Bioaccu	mulative	No data available.						
	Potentia	l:							
12.4	Mobility	in Soil:	No data available.						
12.5	Results	of PBT and vPvB							
	assessn	nent:							
12.6	Other ac	lverse effects:	No data available.						
			Section 13. Dispos	al Consideratio	ns				
13.1	Waste D	isposal Method:	Dispose in accordance with loca	I, state, and federal reg	ulations.				
			Section 14. Trans	sport Informatic	n				
14.1	LAND T	RANSPORT (US D	OT):						
D	OT Prope	r Shipping Name:	Combustible liquid, n.o.s.						
D	OT Hazaro	d Class:							
U	N/NA Nun	nber:	NA1993	Packing Group		111			
14.1	LAND T	RANSPORT (Euro	pean ADR/RID):						
Α	DR/RID SI	hipping Name:	Not dangerous goods.						
U	N Numbei	r:	1993	Packing Group		III			
Ha	azard Cla	SS:							
14.3		NSPORT (ICAO/I	ATA):						
IC	ΑΟ/ΙΑΤΑ	Shipping Name:	Not dangerous goods.						
	N Number		1993	Packing Group:		III			
Ha	azard Cla	SS:							
	ional Tra	nsport	cal, state, and federal re	-					
Infor	mation:		than or equal to 1 mL, o	-	-	-			
					e De Minimis Quantities exemption, per IATA 2.6.10.				
			Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.						
						Ν	Iulti-region for		



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		Section 15. Regu	•				
		nents and Reauthorization Act	-				
CAS #		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)		
219137-85-6	Ac-YVAD-AFC		No	No	No		
67-68-5	Dimethyl sulfoxid	le, anhydrous	No	No	No		
CAS # Hazardous Com		ponents (Chemical Name)	onents (Chemical Name) Other US EPA or State Lists				
219137-85-6	Ac-YVAD-AFC		CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No				
67-68-5 Dimethyl sulfoxid		le, anhydrous	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No				
Regulatory Info	ormation	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:		11/05/2019					
Additional Info	rmation About	No data available.					
his Product:							