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	acco	ording to Regulation (EC) No. 1907/2006 as amended by (E	C) No. 1272/2008
	Section 1.	dentification of the Substance/Mixture and of the	e Company/Undertaking
.1	Product Code:	10006389	
	Product Name:	HDAC Assay Buffer (10X)	
.2	Relevant identified use	s of the substance or mixture and uses advi	sed against:
	Relevant identified uses	s: For research use only, not for human or vete	erinary use.
1.3	Details of the Supplier of Company Name:	of the Safety Data Sheet: Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	
	Web site address: Information:	www.caymanchem.com Cayman Chemical Company	+1 (734)971-3335
1.4	Emergency telephone r Emergency Contact:	umber: CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887
		Section 2. Hazards Identifica	tion
.1	Classification of the Su		
2.1.2 2.2 2.2.1	Classification accordir Xi: Irritant Risk Phrases: R36/37/3 For full text of R- phras Label Elements:	ye Irritation, Category 2A ng to Directive 1999/45/EC: 8	
	GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin i H319: Causes serious ey GHS Precaution Phrase	re irritation.	
	P264: Wash {hands} thor P280: Wear {protective g		
		oughly after handling. loves/protective clothing/eye protection/face pro	otection}.
	P305+351+338: IF IN EY present and easy to do. 0	loves/protective clothing/eye protection/face pro s: n occurs, get medical advice/attention. ′ES: Rinse cautiously with water for several min	

Multi-region format



2.2.2 Labeling according to Directive 1999/45/EC:



Xi

2.3 Adverse Human Health Causes mild skin irritation.

Effects and Symptoms: Causes serious eye irritation.

Material may be irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, 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	n/Information	on Ingredie	nts
CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
77-86-1 TY2900000	Trizma base	3.0 %	201-064-4 NA	Xi; R36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7647-14-5 VZ4725000	Sodium chloride	8.0 %	231-598-3 NA	Xi; R36 Eye Damage 2A: H319
7447-40-7 TS8050000	Potassium chloride	0.2 %	231-211-8 NA	R52 Acute Tox.(O) 5: H303 Aquatic (A) 3: H402
7791-18-6 OM2975000	Magnesium chloride, hexahydrate	0.2 %	NA NA	Xi; R36/37/38 Skin Corr. 2: H315 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
7732-18-5 ZC0110000	Water	88.6 %	231-791-2 NA	No phrases apply. No data available.

Section 4. First Aid Measures

4.1 Description of First AidNo data available.

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 SkinImmediately 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 EyeHold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyesContact: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 Me	easures	
5.1	Suitabl Media: Unsuita		Use water spray to	cool fire-exposed conta	e, water, or dry chemical ainers.	spray.
		able uishing Media:	A solid water stream	m may be inefficient.		
5.2	-	able Properties	No data available.			
	Flash F	Pt:	No data.			
	Explos	ive Limits:	LEL: No data.	UEL:	No data.	
	Autoig	nition Pt:	No data.			
5.3	Fire Fig		•		ng apparatus pressure-d	,
	Instruc	tions:		· ·	e gear to prevent contac	t with skin and eyes.
			Section 6. Ac	cidental Release	Measures	
6.1	Protect	tive Equipment nergency	As conditions warra		uate ventilation. proved self-contained bre ection (rubber boots, safe	0 11
6.2	Enviro Precau	nmental itions:	Take steps to avoid	d release into the envir	onment, if safe to do so.	
6.3		ds and Material ntainment and ng Up:	•	ollect, as appropriate. hical waste container fo	r disposal in accordance	with local regulations.
			Section 7.	Handling and S	storage	
7.1		itions To Be in Handling:	-	st/fume/gas/mist/vapou repeated exposure.	rs/spray.	
7.2		itions To Be in Storing:	Keep container tigh Store in accordance	ntly closed. e with information listed	d on the product insert.	
		Sect	ion 8. Exposu	re Controls/Pers	onal Protection	
8.1	Expos	ure Parameters:				
CAS	#	Partial Chemical	Name	Britain EH40	France VL	Europe
77	-86-1	Trizma base		No data.	No data.	No data.
764	7-14-5	Sodium chloride		No data.	No data.	No data.
744	7-40-7	Potassium chlorid	e	No data.	No data.	No data.
779	1-18-6	Magnesium chlori	de, hexahydrate	No data.	No data.	No data.
773	2-18-5	Water		No data.	No data.	No data.
CAS	#	Partial Chemical	Name	OSHA TWA	ACGIH TWA	Other Limits
77	-86-1	Trizma base		No data.	No data.	No data.
	7-14-5	Sodium chloride		No data.	No data.	No data.
	7-40-7	Potassium chlorid		No data.	No data.	No data.
779	1-18-6	Magnesium chlori	de, hexahydrate	No data.	No data.	No data.
	2-18-5	Water		No data.	No data.	No data.



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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 e	quipment:
	Eye Protection:	Safety glasses
	Protective Gloves:	Compatible chemical-resistant gloves
	Other Protective Clothing:	Lab coat
	Respiratory Equipmen (Specify Type):	t NIOSH approved respirator, as conditions warrant.
	Work/Hygienic/Mainter	n Do not take internally.
	ance Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and
		a safety shower.
		Wash thoroughly after handling.
	S	ection 9. Physical and Chemical Properties
9.1	Information on Basic F	Physical and Chemical Properties
	Physical States:	[]Gas [X]Liquid []Solid
	Appearance and Odor:	: Solution
	pH:	8.0
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	No data.
	Evaporation Rate:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Vapor Pressure (vs. Ai mm Hg):	r or No data.
	Vapor Density (vs. Air	= 1): No data.
	Specific Gravity (Wate	r = 1): No data.
	Solubility in Water:	No data.
	Autoignition Pt:	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 -	No data available.
10.5	Materials To Avoid:	
10.6	Hazardous	No data available.
	Decomposition Or Byproducts:	



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		Section 11. Toxico	ological Inform	ation	
	nformation on Toxicological Effects:	The toxicological effects of	this product have n	ot been thoroughly s	studied.
Carcin	ogenicity:	NTP? No IARC Monog	graphs? No OS	SHA Regulated? No	
		Section 12. Ecol	ogical Informa	tion	
12.1	Toxicity:	Avoid release into the envir	onment.		
		Runoff from fire control or c	lilution water may c	ause pollution.	
		Section 13. Dispo	sal Considera	tions	
	Waste Disposal Method:	Dispose in accordance with	local, state, and fe	deral regulations.	
		Section 14. Trar	nsport Informa	tion	
14.1	LAND TRANSPORT (US DOT):			
DO	T Proper Shipping Na T Hazard Class: /NA Number:	me: Not dangerous goods.			
14.1	LAND TRANSPORT (European ADR/RID):			
AD	R/RID Shipping Name				
-	Number:				
	zard Class:	A 0 // A T A)			
14.3	AIR TRANSPORT (IC	-			
	onal Transport	ne: Not dangerous goods. Transport in accordance wi	ith local state and	federal regulations	
Inform	•	Transport in accordance w	and state, and		
		Section 15. Regu	latory Informa	ation	
EPA SA	ARA (Superfund Amendi	ments and Reauthorization Act	-		
CAS #		nponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
77-8	6-1 Trizma base		No	No	Yes-Cat. N106
7647-	14-5 Sodium chloride		No	No	No
7447-	40-7 Potassium chlor	ide	No	No	No
7791-	18-6 Magnesium chlo	ride, hexahydrate	No	No	No
7732-	18-5 Water		No	No	No
CAS #	Hazardous Con	nponents (Chemical Name)	Other US EPA or	State Lists	
77-8				AP; CWA NPDES: N	lo: TSCA: Inventory:
			CA PROP.65: No		,
7647-	14-5 Sodium chloride		CAA HAP,ODC: N PROP.65: No	No; CWA NPDES: No	; TSCA: Inventory; CA
7447-	40-7 Potassium chlor	ide	CAA HAP,ODC: N PROP.65: No	No; CWA NPDES: No	; TSCA: Inventory; CA
7791-	18-6 Magnesium chlo	ride, hexahydrate	CAA HAP,ODC: N PROP.65: No	No; CWA NPDES: No	; TSCA: No; CA
7732-	18-5 Water		CAA HAP,ODC: N PROP.65: No	No; CWA NPDES: No	; TSCA: Inventory; CA
_					Multi-region form



ard Symbol codes:
Xi
c and Safety Phrases:
Irritating to eyes, respiratory system and skin.
Avoid contact with skin and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection.
This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.
Section 16. Other Information
04/07/2014
out No data available.
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.



Supersedes Revision: 02/25/2011

	Supersedes Revision: 02/25/2011
	according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008
	Section 1. Identification of the Substance/Mixture and of the Company/Undertaking
1.1	Product Code: 10006391 Product Name: HDAC Trichostatin A
1.2	Relevant identified uses of the substance or mixture and uses advised against:
	Relevant identified uses: For research use only, not for human or veterinary use.
1.3	Details of the Supplier of the Safety Data Sheet:
1.0	Company Name: Cayman Chemical Company
	1180 E. Ellsworth Rd.
	Ann Arbor, MI 48108
	Web site address:www.caymanchem.comInformation:Cayman Chemical Company+1 (734)971-3335
1.4	Emergency telephone number: 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 2.1.1	Classification of the Substance or Mixture: Classification according to Regulation (EC) No 1272/2008 [CLP]:
2.1.1	Flammable Liquids, Category 4
	Skin Corrosion/Irritation, Category 2
	Serious Eye Damage/Eye Irritation, Category 2A
2.1.2	
	Xi: Irritant
	Risk Phrases: R36/38
	For full text of R- phrases: see SECTION 15.
2.2	Label Elements:
2.2.1	Labeling according to Regulation (EC) No 1272/2008 [CLP]:
	GHS Signal Word: Warning
	GHS Hazard Phrases:
	H227: Combustible liquid.
	H315: Causes skin irritation.
	H319: Causes serious eye irritation.
	GHS Precaution Phrases:
	P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
	P210: Keep away from {heat/sparks/open flames/hot surfaces} No smoking.
	P264: Wash {hands} thoroughly after handling. P362+364: Take off contaminated clothing and wash it before reuse.
	GHS Response Phrases: P302+352: IF ON SKIN: Wash with plenty of soap and water.
	P332+313: If skin irritation occurs, get medical advice/attention.
	P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
	present and easy to do. Continue rinsing.
	P337+313: If eye irritation persists, get medical advice/attention.
	GHS Storage and Disposal Phrases:
	Please refer to Section 7 for Storage and Section 13 for Disposal information.
	Multi-region form



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2.2.2 Labeling according to Directive 1999/45/EC:



2.3 Adverse Human Health Causes skin and serious eye irritation.

Effects and Symptoms: DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.

DMSO is readily absorbed through skin.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, 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

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
58880-19-6 MI5215000	Trichostatin A	0.006 %	611-758-2 NA	Xn; R20/21/22-36/37/38-43 Acute Tox.(O) 4: H302 Acute Tox.(D) 4: H312 Acute Tox.(I) 4: H332 Skin Corr. 2: H315 Skin Sens. 1: H317 Eye Damage 2A: H319 TOST (SE) 3: H335 H336
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	99.994 %	200-664-3 NA	Xi; R36/38 Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315

Section 4. First Aid Measures

4.1 Description of First AidNo data available.

Measures:

mododiool	
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.
Important Symptoms and Effects, Both Acute and Delayed:	Exposure may cause: hematuria or shortness of breath (dyspnea). Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness. Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.
	In Case of Skin Contact: In Case of Eye Contact: In Case of Ingestion: Important Symptoms and Effects, Both



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		Section 5. Fire Fighting Measures
5.1	Suitable Extinguis Media:	shing Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
	Wedia: Unsuitable	A solid water stream may be inefficient.
	Extinguishing Med	
5.2	Flammable Proper	
	and Hazards:	flashpoint.
		Container explosion may occur under fire conditions.
		Emits toxic fumes under fire conditions.
		Sensitive to static discharge.
	Flash Pt:	89.00 C Method Used: Closed Cup
	Explosive Limits:	
- 0	Autoignition Pt:	215.00 C
5.3	Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
	manuchona.	Note: Combustible as diluted in dimethyl sulfoxide
		Section 6. Accidental Release Measures
5.1	Protective Precaut	itions, Avoid breathing vapors and provide adequate ventilation.
	Protective Equipm	
	and Emergency	respirator, and appropriate personal protection (rubber boots, safety goggles, and hea
	Procedures:	rubber gloves).
6.2	Environmental	Take steps to avoid release into the environment, if safe to do so.
	Precautions:	
6.3	Methods and Mate For Containment a	
	Cleaning Up:	
	3 1	Section 7. Handling and Storage
	Precautions To Be	
7 1		
7.1		
7.1	Taken in Handling	
7.1		g: Avoid prolonged or repeated exposure.
	Taken in Handling Precautions To Be	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame.
7.1 7.2	Taken in Handling	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed.
	Taken in Handling Precautions To Be Taken in Storing:	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed. Store in accordance with information listed on the product insert.
	Taken in Handling Precautions To Be	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed. Store in accordance with information listed on the product insert.
	Taken in Handling Precautions To Be Taken in Storing: Other Precautions	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed. Store in accordance with information listed on the product insert.
7.2	Taken in Handling Precautions To Be Taken in Storing: Other Precautions	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed. Store in accordance with information listed on the product insert. s: Hygroscopic. Section 8. Exposure Controls/Personal Protection
	Taken in Handling Precautions To Be Taken in Storing: Other Precautions	 g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed. Store in accordance with information listed on the product insert. s: Hygroscopic. Section 8. Exposure Controls/Personal Protection
7.2 3.1 CAS	Taken in Handling Precautions To Be Taken in Storing: Other Precautions	g: Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge. e Keep away from heat, sparks and flame. Keep container tightly closed. Store in accordance with information listed on the product insert. s: Hygroscopic. Section 8. Exposure Controls/Personal Protection eters: emical Name Britain EH40 France VL Europe

Multi-region format



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CAS #	¥	Partial Chemical	Name	OSHA TWA	ACGIH TWA	Other Limits
5888	80-19-6	Trichostatin A		No data.	No data.	No data.
67-	-68-5	Dimethyl sulfoxide	, anhydrous	No data.	No data.	No data.
8.2	Expos	ure Controls:		Į	Į	Į
8.2.1	Engine	ering Controls	Use process enc	losures, local exhaust	ventilation, or other engin	eering controls to
	(Ventila	ation etc.):	control airborne l	evels below recommer	nded exposure limits.	-
8.2.2	Perso	nal protection e	quipment:			
	Eye Pro	otection:	Safety glasses			
	Protect	ive Gloves:	Compatible chen	nical-resistant gloves		
	Other F Clothin	Protective g:	Lab coat			
	-	atory Equipment y Type):	NIOSH approved	l respirator, as conditio	ons warrant.	
			Do not take inter			
	ance P	ractices:	-	or utilizing this materia	I should be equipped with	an eyewash facility an
			a safety shower.	ofter bendling		
			Wash thoroughly	5		
		S	ection 9. Phy	ysical and Chem	ical Properties	
9.1	Informa	ation on Basic P	hysical and Che	mical Properties		
	Physic	al States:	[] Gas	[X]Liquid []S	olid	
	Appear	ance and Odor:	Solution			
I	Melting	Point:	No data.			
	Boiling	Point:	No data.			
	Flash F	Pt:		Method Used: Close	d Cup	
	-	ation Rate:	No data.			
	-	ive Limits:	LEL: 3.5		UEL: 42.0% at 2	25.0 C
	Vapor I mm Hg	Pressure (vs. Ai	or 0.37 MM	_HG at 20.0 C		
	-). Density (vs. Air :	= 1): No data.			
	-	c Gravity (Water	,			
	-	ity in Water:	No data.			
		nition Pt:	215.00 C			
9.2	-	nformation	210100 0			
		t Volatile:	No data.			
			Section 1	0 Stability and I	Popotivity	
				0. Stability and I	Reactivity	
10.1	Reactiv	-	No data available			
10.2	Stabilit	-	Unstable []	Stable [X]		
10.3		y Note(s):			mation listed on the produ	uct insert.
	•	erization:	Will occur []	Will not occur [X]		
10.4		ions To Avoid:	heat, flames and	sparks		
10.5	-	oatibility - Ils To Avoid:	acid chlorides			
	wateria	us to Avola:	phosphorus halic strong acids	69		
			alkali metals			
			strong oxidizing a	agents		
			strong reducing a	•		
10.6	Hazard	ous	carbon monoxide	9		



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	Decomposi Byproducts		carbon dioxide sulfur oxides			
			Section 11. Tox	icological Infor	mation	
11.1	Information Toxicologic		The toxicological effects DMSO - Toxicity Data: 0 Oral LD50 (mouse): 7,9 (woman): 1,800 mg/kg; DMSO - Irritation Data:	of this product have Dral LD50 (rat): 14,50 20 mg/kg; Skin LD50 Inhalation LC50 (rat)	not been thorough 00 mg/kg; Skin LD5 0 (mouse): 50,000 n : >1,600 mg/m3 (4ł	0 (rat): 40,000 mg/kg; ng/kg; Skin TDLO n);
	Chronic To Effects:	xicological	DMSO - Investigated as Only select Registry of here. See actual entry in DMSO RTECS Number	oxic Effects of Cher RTECS for complete	nical Substances (F	•
Carci	nogenicity:		NTP? No IARC Mo	nographs? No	OSHA Regulated?	No
			Section 12. Ec	ological Inform	nation	
12.1	Toxicity:		Avoid release into the e Runoff from fire control		cause pollution.	
			Section 13. Dis	posal Conside	rations	
3.1	Waste Disp	osal	Dispose in accordance	vith local, state, and	federal regulations	
	Method:					
D	LAND TRA OT Proper Si	••••		ransport Inform	nation	
D(D(UI 14.1 UI Ha 14.3 IC Addit	LAND TRA OT Proper Si OT Hazard C N/NA Number LAND TRA DR/RID Ship N Number: azard Class: AIR TRAN AIR TRAN	hipping Nan Class: ANSPORT (E ping Name: SPORT (ICA	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good	s.		ns.
D(D(UI 14.1 UI Ha 14.3 IC Addit	LAND TRA OT Proper SI OT Hazard C N/NA Numbe LAND TRA DR/RID Ship N Number: azard Class: AIR TRAN CAO/IATA Sh	hipping Nan Class: ANSPORT (E ping Name: SPORT (ICA	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance	ls. s. with local, state, an	d federal regulatior	15.
Do Do Ul 14.1 Ha 14.3 IC Addit	LAND TRA OT Proper SI OT Hazard C N/NA Numbe LAND TRA DR/RID Ship N Number: azard Class: AIR TRAN CAO/IATA Sh tional Transp mation:	hipping Nan Class: er: ANSPORT (E ping Name: SPORT (ICA ipping Nam port	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance Section 15. Re	ls. s. with local, state, an gulatory Inforn	d federal regulatior	ns.
Do Do UI 14.1 AI UI Ha 14.3 IC Addit	LAND TRA OT Proper SI OT Hazard C N/NA Numbe LAND TRA DR/RID Ship N Number: azard Class: AIR TRANS AO/IATA Sh tional Transp mation:	hipping Nan Class: er: ANSPORT (E ping Name: SPORT (ICA ipping Nam port	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance	s. s. with local, state, an gulatory Inforn Act of 1986) Lists	d federal regulatior	ns.
D(D(U 14.1 A U H 14.3 IC Addit Inforr EPA S CAS #	LAND TRA OT Proper S OT Hazard C N/NA Numbe LAND TRA DR/RID Ship N Number: azard Class: AIR TRAN AIR TRAN CAO/IATA Sh tional Transp mation:	hipping Nan Class: er: ANSPORT (E ping Name: SPORT (ICA ipping Nam port	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance Section 15. Re- ments and Reauthorization	s. s. with local, state, an gulatory Inforn Act of 1986) Lists	d federal regulatior	
D D D U 14.1 A U H 14.3 IC Addit Inforr EPA S CAS # 5888	LAND TRA OT Proper SI OT Hazard C N/NA Number LAND TRA DR/RID Ship N Number: azard Class: AIR TRANS AO/IATA Sh tional Transp mation: SARA (Superfu # Haz 10-19-6 Tric	hipping Nan Class: er: ANSPORT (E ping Name: SPORT (ICA ipping Nam port und Amendm zardous Com	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance Section 15. Re- tents and Reauthorization ponents (Chemical Name)	Is. Is. Is. Is. Is. Is. Is. Is. Is. Is.	d federal regulatior nation	S. 313 (TRI)
D D D U 14.1 A U H 14.3 IC Addit Inforr EPA S CAS # 5888 67-	LAND TRA OT Proper SI OT Hazard C N/NA Number LAND TRA DR/RID Ship N Number: azard Class: AIR TRAN CAO/IATA Sh tional Transp mation: SARA (Superfut Haz 10-19-6 Tric 68-5 Dim	hipping Nan Class: er: ANSPORT (E ping Name: SPORT (ICA ipping Nam port und Amendm ardous Com chostatin A hethyl sulfoxide	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance Section 15. Re- tents and Reauthorization ponents (Chemical Name)	Is. Is. Is. Is. Is. Is. Is. Is.	d federal regulation nation S. 304 RQ No No	S. 313 (TRI) No
D U U 14.1 A U H 14.3 IC Addit Inforr EPA S CAS # 5888 67- CAS #	LAND TRA OT Proper SI OT Hazard C N/NA Number LAND TRA DR/RID Ship N Number: azard Class: AIR TRANS AO/IATA Sh tional Transp mation: SARA (Superfu # Haz 0-19-6 Tric 68-5 Dim	hipping Nan Class: er: ANSPORT (E ping Name: SPORT (ICA ipping Nam port und Amendm ardous Com chostatin A hethyl sulfoxide	JS DOT): ne: Not dangerous good European ADR/RID): Not dangerous good AO/IATA): e: Not dangerous good Transport in accordance Section 15. Re ents and Reauthorization ponents (Chemical Name) e, anhydrous	Is. Is. Is. Is. Is. Is. Is. Is. Is. Is.	d federal regulation nation S. 304 RQ No No	S. 313 (TRI) No No

Multi-region format



Page: 6

[
European Community Ha	azard Symbol codes:
	Xi
Europeon Community Di	ak and Safaty Dhrassa
European Community Ris	-
R36/38	Irritating to eyes and skin.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S26/27/20	
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
Regulatory Information	This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and
Statement:	European Directive 67/548/EEC as amended.
	Section 16. Other Information
Revision Date:	04/07/2014
Additional Information Ab	oout No data available.
This Product:	
Company Policy or	DISCLAIMER: This information is believed to be accurate and represents the best
Disclaimer:	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.



Supersedes Revision: 02/25/2011

			Supersedes Revision: 02/25/2011
	acc	ording to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008
	Section 1.	Identification of the Substance/Mixture and of th	e Company/Undertaking
1.1	Product Code: Product Name:	10006392 HDAC Substrate	
.2	Relevant identified use	es of the substance or mixture and uses adv	ised against:
1.3	Details of the Supplier Company Name:	of the Safety Data Sheet: Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	
	Web site address: Information:	www.caymanchem.com Cayman Chemical Company	+1 (734)971-3335
1.4	Emergency telephone Emergency Contact:	number: CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887
		Section 2. Hazards Identifica	ation
2.1.1 2.1.2 2.2 2.2.1	Flammable Liquids, Ca Skin Corrosion/Irritation Serious Eye Damage/I Classification accordia Xi: Irritant Risk Phrases: R36/38 For full text of R- phrace Label Elements:	on, Category 2 Eye Irritation, Category 2A ng to Directive 1999/45/EC:	
	GHS Signal Word: GHS Hazard Phrases: H227: Combustible liqui H315: Causes skin irrita	Warning	
	P210: Keep away from { P264: Wash {hands} the	tion. ye irritation. es: gloves/protective clothing/eye protection/face p heat/sparks/open flames/hot surfaces} No sn	-



Page: 2

2.2.2 Labeling according to Directive 1999/45/EC:



2.3 Adverse Human Health Causes skin and serious eye irritation.

Effects and Symptoms: DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.

DMSO is readily absorbed through skin.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, 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

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	HDAC Substrate	0.2 %	NA NA	No phrases apply. No data available.
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	99.8 %	200-664-3 NA	Xi; R36/38 Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315

Section 4. First Aid Measures

4.1	Description of First Ai Measures:	d No data available.
	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.
4.2	Important Symptoms and Effects, Both Acute and Delayed:	Exposure may cause: hematuria or shortness of breath (dyspnea). Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness. Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.



			Section 5.	Fire Fighting Meas	ures	
5.1		e Extinguishing	Use alcohol-resista	nt foam, carbon dioxide, wa	ater, or dry chemical spray	у.
	Media:		Use water spray to	cool fire-exposed contained	ſS.	
	Unsuita		A solid water stream	m may be inefficient.		
	Extingu	ishing Media:				
5.2		ble Properties	•	s that form explosive mixtur	es at temperatures at or a	bove the
	and Haz	ards:	flashpoint.		litione	
			•	n may occur under fire conc Inder fire conditions.	ntions.	
			Sensitive to static d			
	Flash P	t:	89.00 C Method I	•		
		ve Limits:		t 25.0 C UEL: 42.0	0% at 25.0 C	
	-	ition Pt:	215.00 C			
5.3	Fire Fig		As in any fire, wear	self-contained breathing a	oparatus pressure-deman	d (NIOSH
	Instruct	-	•	lent), and full protective gea	· ·	,
			Note: Combustible	as diluted in dimethyl sulfor	kide	
			Section 6. Acc	cidental Release Me	easures	
6.1	Protecti	ve Precautions	, Avoid breathing va	pors and provide adequate	ventilation.	
		ve Equipment		ant, wear a NIOSH approve		• • • •
		ergency		propriate personal protection (rubber boots, safety goggles, and heavy		
• •	Procedu		rubber gloves).		ant if a factor da a a	
6.2	Environ Precaut		Take steps to avoid	d release into the environm	ent, il sale to do so.	
6.3		s and Material	Contain spill and c	ollect, as appropriate.		
		tainment and	•	nical waste container for disposal in accordance with local regulations.		
	Cleanin	g Up:				
			Section 7.	Handling and Stor	age	
7.1	Precaut	ions To Be	Avoid breathing due	st/fume/gas/mist/vapours/sp	oray.	
	Taken i	n Handling:	Avoid prolonged or	repeated exposure.		
			Keep away from so			
	_			measures against static di	scharge.	
7.2		ions To Be		eat, sparks and flame.		
	Taken II	n Storing:	Keep container tigh	-	the product insert	
	Other P	recautions:	Hygroscopic.	ce with information listed on the product insert.		
		Sact	ion 8 Exposu	re Controls/Persona	al Protection	
8.1	Exposu	re Parameters:				
CAS		Partial Chemical	Name	Britain EH40	France VL	Europe
		HDAC Substrate		No data.	No data.	No data.
67		Dimethyl sulfoxide	e, anhydrous	No data.	No data.	No data.
CAS		Partial Chemical	-	OSHA TWA	ACGIH TWA	Other Limits
	NA	HDAC Substrate		No data.	No data.	No data.
67		Dimethyl sulfoxide	anhvdrous	No data.	No data.	No data.
•••			, ,	ļ	ļ	ļ



0 0	Experime Controlat	
8.2	Exposure Controls:	
8.2.1	(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 e	quipment:
	Eye Protection:	Safety glasses
	Protective Gloves:	Compatible chemical-resistant gloves
	Other Protective Clothing:	Lab coat
	Respiratory Equipmen (Specify Type):	t NIOSH approved respirator, as conditions warrant.
	Work/Hygienic/Mainter	Do not take internally.
	ance Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and
		a safety shower.
		Wash thoroughly after handling.
	S	ection 9. Physical and Chemical Properties
9.1	Information on Basic F	Physical and Chemical Properties
	Physical States:	[]Gas [X]Liquid []Solid
	Appearance and Odor:	
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	89.00 C Method Used: Closed Cup
	Evaporation Rate:	No data.
	Explosive Limits:	LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
	Vapor Pressure (vs. Ai	
	mm Hg):	
	Vapor Density (vs. Air	= 1): No data.
	Specific Gravity (Wate	,
	Solubility in Water:	No data.
	Autoignition Pt:	215.00 C
9.2	Other Information	
5.2	Percent Volatile:	No data.
	reicent volatile.	
		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:	heat, flames and sparks
10.5	Incompatibility -	acid chlorides
	Materials To Avoid:	phosphorus halides
		strong acids
		alkali metals
		strong oxidizing agents
40.0	11	strong reducing agents
10.6	Hazardous	carbon monoxide
	Decomposition Or Byproducts:	carbon dioxide sulfur oxides
	Byproducts:	
		Multi-region format



Revision: 04/07/2014 Supersedes Revision: 02/25/2011

			Section 11. Toxic	ological intoin			
11.1	Toxicol	Information on Toxicological Effects:The toxicological effects of this product have not been thoroughly studied. DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; Oral LD50 (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 mg/kg; Inhalation LC50 (rat): >1,600 mg/m3 (4h); DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;					
Chronic ToxicologicalDMSO - Investigated as a mutagen, reproductive effector, and tumorigen.Effects:Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is press here. See actual entry in RTECS for complete information.DMSO RTECS Number: PV6210000							
Carci	nogenic	ity:			SHA Regulated? No)	
			Section 12. Eco	logical Informa	ation		
12.1	Toxicity	y:	Avoid release into the envi Runoff from fire control or		ause pollution.		
			Section 13. Dispo	osal Considera	ations		
13.1	Waste I Method	Disposal I:	Dispose in accordance wit	h local, state, and fe	ederal regulations.		
	Section 14. Transport Information						
D	OT Prop						
D D U 14.1 A U H 14.3 IC Addit	OT Prop OT Haza N/NA Nu LAND DR/RID S N Numb azard CI AIR TF	er Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: lass: RANSPORT (ICA A Shipping Nam	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v	vith local, state, and	federal regulations.		
D D U 14.1 A U H 14.3 IC Addit Infor	OT Prop OT Haza N/NA Nu LAND DR/RID S N Numbo azard Cl AIR TF CAO/IAT/ tional Tr mation:	er Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: lass: RANSPORT (ICA A Shipping Name ransport	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v Section 15. Reg	vith local, state, and ulatory Informa	federal regulations.		
Di Di Ul 14.1 Al Ul 14.3 IC Addit Inforr	OT Prop OT Haza N/NA Nu LAND DR/RID S N Number azard Cl AIR TF CAO/IAT/ tional Tr mation:	per Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: ass: RANSPORT (ICA A Shipping Nam ansport	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v Section 15. Reg ments and Reauthorization Advised to the section advised to the sect	vith local, state, and ulatory Informa et of 1986) Lists	federal regulations. ation		
D D U 14.1 A U H 14.3 IC Addit Infor EPA \$ CAS #	OT Prop OT Haza N/NA Nu LAND DR/RID S N Number azard Cl AIR TF CAO/IAT/ tional Tr mation:	per Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: ass: RANSPORT (ICA A Shipping Nam ansport	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v Section 15. Reg ments and Reauthorization Accordances	vith local, state, and ulatory Informa	federal regulations.	S. 313 (TRI) No	
Du Ul 14.1 Al Ul 14.3 IC Addit Inforr EPA S CAS #	OT Prop OT Haza N/NA Nu LAND DR/RID S N Numbo azard Cl AIR TF CAO/IAT/ tional Tr mation: SARA (Su	er Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: ass: RANSPORT (ICA A Shipping Name ansport	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v Section 15. Reg ments and Reauthorization Ad ponents (Chemical Name)	vith local, state, and ulatory Informa t of 1986) Lists S. 302 (EHS)	federal regulations. ation	S. 313 (TRI)	
D D U 14.1 A U H 14.3 IC Addit Inforr EPA \$ CAS # 67-	OT Prop OT Haza N/NA Nu LAND DR/RID S N Numbo azard Cl AIR TF CAO/IAT/ tional Tr mation: SARA (Su # NA -68-5	er Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: ass: RANSPORT (ICA A Shipping Nam ansport Iperfund Amendm Hazardous Com HDAC Substrate Dimethyl sulfoxid	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v Section 15. Reg ments and Reauthorization Ad ponents (Chemical Name)	vith local, state, and ulatory Informa at of 1986) Lists S. 302 (EHS) No	federal regulations. ation S. 304 RQ No No	S. 313 (TRI) No	
D D U 14.1 A U H 14.3 IC Addit Inforr EPA \$ CAS #	OT Prop OT Haza N/NA Nu LAND DR/RID S N Numbo azard Cl AIR TF CAO/IAT/ tional Tr mation: SARA (Su # NA -68-5	er Shipping Nar ard Class: Imber: TRANSPORT (E Shipping Name: er: ass: RANSPORT (ICA A Shipping Nam ansport Iperfund Amendm Hazardous Com HDAC Substrate Dimethyl sulfoxid	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance v Section 15. Reg ments and Reauthorization Ad ponents (Chemical Name) le, anhydrous ponents (Chemical Name)	vith local, state, and ulatory Information of 1986) Lists S. 302 (EHS) No No Other US EPA of	federal regulations. ation S. 304 RQ No No	S. 313 (TRI) No No	

Multi-region format



	Supersedes Revision: 02/25/2011
European Community Ha	izard Symbol codes:
	Xi
Europeon Community Di	ak and Safaty Phrases
European Community Ris	-
R36/38	Irritating to eyes and skin.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical
	advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
Regulatory Information	This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and
Statement:	European Directive 67/548/EEC as amended.
	Section 16. Other Information
Revision Date:	04/07/2014
Additional Information Ab	out No data available.
This Product:	
Company Policy or	DISCLAIMER: This information is believed to be accurate and represents the best
Disclaimer:	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.



SAFETY DATA SHEET HDAC Deacetylated Standard

			Supersedes Revision: 02/25/2011
	acco	ording to Regulation (EC) No. 1907/2006 as amended by (E	C) No. 1272/2008
	Section 1. I	dentification of the Substance/Mixture and of the	e Company/Undertaking
1.1	Product Code: Product Name:	10006393 HDAC Deacetylated Standard	
.2	Relevant identified use	s of the substance or mixture and uses advi	sed against:
	Relevant identified use	s: For research use only, not for human or vete	erinary use.
1.3	Details of the Supplier Company Name:	of the Safety Data Sheet: Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	
	Web site address: Information:	www.caymanchem.com Cayman Chemical Company	+1 (734)971-3335
1.4	Emergency telephone r Emergency Contact:	number: CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887
		Section 2. Hazards Identifica	tion
2.1.2 2.2 2.2.1	Classification accordir Xi: Irritant Risk Phrases: R36/38 For full text of R- phras Label Elements:	ye Irritation, Category 2A ng to Directive 1999/45/EC: ses: see SECTION 15. Regulation (EC) No 1272/2008 [CLP]:	
	P210: Keep away from { P264: Wash {hands} tho	ion. /e irritation.	-
	GHS Response Phrases P302+352: IF ON SKIN: P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. O P337+313: If eye irritation GHS Storage and Dispo	aminated clothing and wash it before reuse. s: Wash with plenty of soap and water. n occurs, get medical advice/attention. 'ES: Rinse cautiously with water for several mir Continue rinsing. n persists, get medical advice/attention.	



SAFETY DATA SHEET HDAC Deacetylated Standard

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2.2.2 Labeling according to Directive 1999/45/EC:



2.3 Adverse Human Health Causes skin and serious eye irritation.

Effects and Symptoms: DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.

DMSO is readily absorbed through skin.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, 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

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
NA NA	HDAC Deacetylated Standard	0.038 %	NA NA	No phrases apply. No data available.
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	99.962 %	200-664-3 NA	Xi; R36/38 Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315

Section 4. First Aid Measures

4.1	Description of First AidNo data available. 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.			
4.2	Important Symptoms and Effects, Both Acute and Delayed:	Exposure may cause: hematuria or shortness of breath (dyspnea). Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness. Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.			



SAFETY DATA SHEET HDAC Deacetylated Standard

r					
		Section 5.	Fire Fighting	Measures	
5.1	Suitable Extinguishing Media:		nt foam, carbon dio cool fire-exposed co	xide, water, or dry chemic ontainers.	al spray.
	Unsuitable	A solid water stream	m may be inefficient		
	Extinguishing Media:				
5.2	Flammable Properties and Hazards:	flashpoint.		e mixtures at temperatures	s at or above the
		Emits toxic fumes u	n may occur under f under fire conditions		
		Sensitive to static o	-		
	Flash Pt:		Used: Closed Cup		
	Explosive Limits:		at 25.0 C UEL	.: 42.0% at 25.0 C	
	Autoignition Pt:	215.00 C			
5.3	Fire Fighting Instructions:	approved or equiva		thing apparatus pressure tive gear to prevent conta yl sulfoxide	•
		Section 6. Ac	cidental Relea	se Measures	
6.1	Protective Precautions Protective Equipment and Emergency Procedures:	s, Avoid breathing vapors 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:	- ,	d release into the er	nvironment, if safe to do so	0.
6.3	Methods and Material For Containment and Cleaning Up:		ollect, as appropriat nical waste containe	e. r for disposal in accordanc	ce with local regulations.
		Section 7.	Handling and	l Storage	
7.1	Precautions To Be Taken in Handling:	Avoid breathing due Avoid prolonged or Keep away from so	st/fume/gas/mist/vap	oours/spray.	
7.2	Precautions To Be	Keep away from he	eat, sparks and flam	Э.	
	Taken in Storing:	Keep container tigh	ntly closed.	sted on the product insert.	
	Other Precautions:	Hygroscopic. Light sensitive.			
	Sec	tion 8. Exposu	ire Controls/Pe	ersonal Protection	
8.1	Exposure Parameters:	•			
CAS		Name	Britain EH40	France VL	Europe
	NA HDAC Deacetylat		No data.	No data.	No data.
67	7-68-5 Dimethyl sulfoxide		No data.	No data.	No data.

Multi-region format



SAFETY DATA SHEET HDAC Deacetylated Standard

Revision: 04/07/2014

CAS # Partial Chemica NA HDAC Deacetyla 67-68-5 Dimethyl sulfoxio		Partial Chemical	Name	OSHA TWA	ACGIH TWA	edes Revision: 02/25/2011 Other Limits		
		HDAC Deacetvlat	ed Standard	No data.	No data.	No data.		
			No data.	No data.	No data.			
3.2		ure Controls:						
3.2.1	Engine (Ventila	ering Controls ition etc.):	control airborne l	losures, local exhaust evels below recomme	ventilation, or other engine nded exposure limits.	ering controls to		
8.2.2		nal protection e	• •					
	•	otection:	Safety glasses					
		ive Gloves:		nical-resistant gloves				
	Clothin	•	Lab coat					
	(Specify	у Туре):		respirator, as conditic	ons warrant.			
			Do not take inter	•	Labor Idla and Second Mb			
	ance Pr	ractices:	a safety shower.	or utilizing this materia	I should be equipped with	an eyewash facility ar		
			Wash thoroughly	after handling.				
			• •	_	Lool Drop ortica			
			-	sical and Chem	lical Properties			
9.1			Physical and Che	•				
	-	al States:	[]Gas	[X]Liquid []S	Solid			
		pearance and Odor: Solution						
	Melting		No data.					
	Boiling		No data.					
	Flash P							
	-	ation Rate:	No data.	°/ at 25.0.0				
	-	ive Limits:	LEL: 3.5		UEL: 42.0% at 2	5.0 C		
	mm Hg			_HG at 20.0 C				
	-	Density (vs. Air						
	-	c Gravity (Wate	-					
		ity in Water:	No data.					
	-	nition Pt:	215.00 C					
9.2		nformation						
	Percent	t Volatile:	No data.					
			Section 1	0. Stability and I	Reactivity			
10.1	Reactiv	/ity:	No data available).				
10.2	Stabilit	y:	Unstable []	Stable [X]				
10.3	Stability	y Note(s):	Stable if stored in	accordance with infor	rmation listed on the produ	ct insert.		
	Polyme	rization:	Will occur []	Will not occur [X]				
10.4	Conditi	ons To Avoid:	heat, flames and	sparks				
10.5	-	atibility - Is To Avoid:	acid chlorides phosphorus halid	es				
			strong acids					
			alkali metals					
			strong oxidizing a	•				
40.0			strong reducing a	-				
10.6	Hazard	ous	carbon monoxide)				
						Multi-region form		



SAFETY DATA SHEET HDAC Deacetylated Standard

	Decomposition Or Byproducts:	carbon dioxide sulfur oxides				
		Section 11. Toxic	ological Inforn	nation		
1.1	Information on Toxicological Effects:	The toxicological effects of this product have not been thoroughly studied. Effects: DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; Oral LD50 (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 mg/kg; Inhalation LC50 (rat): >1,600 mg/m3 (4h);				
	Chronic Toxicological Effects:	DMSO - Irritation Data: Eye DMSO - Investigated as a Only select Registry of Tox here. See actual entry in R DMSO RTECS Number: P	mutagen, reproduc ic Effects of Chemi TECS for complete	tive effector, and cal Substances (I	tumorigen.	
Carci	nogenicity:	NTP? No IARC Monog	graphs? No O	SHA Regulated?	No	
		Section 12. Ecol	ogical Informa	ation		
2.1	Toxicity:	Avoid release into the envir Runoff from fire control or o		cause pollution.		
		Section 13. Dispo	sal Considera	ations		
3.1	Waste Disposal Method:	Dispose in accordance with	n local, state, and fo	ederal regulations		
	Methou.					
D D U	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number:	me: Not dangerous goods.	nsport Informa	ation		
D D U 14.1 A U H 14.3 IC Addit	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name N Number: lazard Class:	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w	ith local, state, and	federal regulation	ns.	
D D U 14.1 A U 14.3 IC Addit	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name Number: lazard Class: AIR TRANSPORT (ICA CAO/IATA Shipping Nam tional Transport mation:	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w Section 15. Regu	ith local, state, and ulatory Inform	federal regulation	ns.	
D D U 14.1 A U H 14.3 IC Addit Infor	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name N Number: lazard Class: AIR TRANSPORT (IC) CAO/IATA Shipping Nam tional Transport mation:	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w Section 15. Regu nents and Reauthorization Ac	ith local, state, and ulatory Inform t of 1986) Lists	federal regulation		
D D U 14.1 A U 14.3 IC Addit Infor	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name Number: lazard Class: AIR TRANSPORT (IC/ CAO/IATA Shipping Nam tional Transport mation: SARA (Superfund Amendm # Hazardous Com	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w Section 15. Regu nents and Reauthorization Ac ponents (Chemical Name)	ith local, state, and ulatory Inform	federal regulation	ns. S. 313 (TRI) No	
D U 14.1 A U 14.3 IC Addif Inform EPA \$ CAS #	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name Number: lazard Class: AIR TRANSPORT (IC/ CAO/IATA Shipping Nam tional Transport mation: SARA (Superfund Amendm # Hazardous Com	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w Section 15. Regu nents and Reauthorization Ac ponents (Chemical Name) ated Standard	ith local, state, and ulatory Inform t of 1986) Lists S. 302 (EHS)	federal regulation ation S. 304 RQ	S. 313 (TRI)	
D D U 14.1 A U 14.3 IC Addit nfor EPA \$ CAS # 67 ⁻	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name Number: lazard Class: AIR TRANSPORT (IC/ CAO/IATA Shipping Nam tional Transport mation: SARA (Superfund Amendra Hazardous Corr NA HDAC Deacetyla -68-5 Dimethyl sulfoxic	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w Section 15. Regu ments and Reauthorization Ac ponents (Chemical Name) ated Standard de, anhydrous	ith local, state, and ulatory Inform t of 1986) Lists S. 302 (EHS) No No	federal regulation ation S. 304 RQ No No	S. 313 (TRI) No	
D D U 14.1 A U 14.3 IC Addit nforn EPA \$ CAS #	LAND TRANSPORT (OT Proper Shipping Na OT Hazard Class: N/NA Number: LAND TRANSPORT (DR/RID Shipping Name Number: lazard Class: AIR TRANSPORT (IC/ CAO/IATA Shipping Nam tional Transport mation: SARA (Superfund Amendra Hazardous Corr NA HDAC Deacetyla -68-5 Dimethyl sulfoxic	US DOT): me: Not dangerous goods. European ADR/RID): : Not dangerous goods. AO/IATA): ne: Not dangerous goods. Transport in accordance w Section 15. Regu nents and Reauthorization Ac ponents (Chemical Name) ated Standard de, anhydrous	ith local, state, and ulatory Inform t of 1986) Lists S. 302 (EHS) No No Other US EPA o	federal regulation ation S. 304 RQ No No r State Lists	S. 313 (TRI) No	



SAFETY DATA SHEET HDAC Deacetylated Standard

	Xi
European Community Ris	sk and Safety Phrases:
R36/38	Irritating to eyes and skin.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
Regulatory Information Statement:	This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.
	Section 16. Other Information
Revision Date:	04/07/2014
Additional Information Ab	out No data available.
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.



Supersedes Revision: 02/25/2011

			Supersedes Revision: 02/25/2011			
		rding to Regulation (EC) No. 1907/2006 as amended by (E				
	Section 1. Ic	lentification of the Substance/Mixture and of the	e Company/Undertaking			
1.1	Product Code: Product Name:	10006394 HDAC Developer				
1.2	Relevant identified uses	of the substance or mixture and uses advi	ised against:			
	Relevant identified uses	: For research use only, not for human or vete	erinary use.			
1.3	Company Name:	of the Safety Data Sheet: Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI <u>48108</u>				
	Web site address: Information:	www.caymanchem.com Cayman Chemical Company	+1 (734)971-3335			
1.4	Emergency telephone n Emergency Contact:	umber: CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887			
		Section 2. Hazards Identifica	tion			
2.1.1	Skin Corrosion/Irritation Serious Eye Damage/Ey Respiratory Sensitizatio	ve Irritation, Category 2A				
2.1.2 2.2	Classification according to Directive 1999/45/EC: Xi: Irritant Risk Phrases: R36/37/38, R42 For full text of R- phrases: see SECTION 15. Label Elements:					
2.2.1	Labeling according to F	Regulation (EC) No 1272/2008 [CLP]:				
	H335: May cause respirat	e irritation. or asthma symptoms or breathing difficulties if ory irritation.	inhaled.			
	 GHS Precaution Phrases: P264: Wash {hands} thoroughly after handling. P280: Wear {protective gloves/protective clothing/eye protection/face protection}. P362+364: Take off contaminated clothing and wash it before reuse. P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}. P284: {In case of inadequate ventilation, }wear respiratory protection {}. 					
	P332+313: If skin irritation	Vash with plenty of soap and water. h occurs, get medical advice/attention. ES: Rinse cautiously with water for several mir	nutes. Remove contact lenses, if			
			Multi-region form			



Revision: 04/07/2014 Supersedes Revision: 02/25/2011

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		•	on persists, get medical adv): If breathing is difficult, rem		nd keep at rest i	n a position comfortable	
	for breathing. P342+311: If experiencing respiratory symptoms call a POISON CENTER or doctor/physician. P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312: Call a {POISON CENTER/doctor/} if you feel unwell.						
		torage and Disp					
			7 for Storage and Section 1	3 for Disposal info	ormation.		
.2.2	Label	ing according to	Directive 1999/45/EC:				
	X						
	Xi						
2.3	Advers		h Causes skin irritation. :Causes serious eye irritat	ion.			
			Material may be irritating			oper respiratory tract.	
			May be harmful by inhalat May cause allergy or asth		•	Ities if inhaled	
			May cause respiratory irrit	• •			
			To the best of our knowled		ical properties h	ave not been thoroughly	
			investigated.				
		Sec	tion 3. Composition	/Information	on Ingredie	nts	
CAS	#/		ponents (Chemical Name)/	Concentration	EC No./	Risk Phrases/	
RTEC	S #	REACH Registra	tion No.		EC Index No.	GHS Classification	
NA NA		HDAC Developer		100.0 %	NA NA	Xi; R36/37/38-42 Skin Corr. 2: H315 Eye Damage 2A: H319 Resp. Sens. 1: H334 TOST (SE) 3: H335 H336	
			Section 4. Fi	rst Aid Meas	ures	•	
.1	Descri Measu		dNo data available.				
	In Case	e of Inhalation:	Remove to fresh air. If not personnel. Get immediate			n or give oxygen by trained	
	In Case of Skin Contact:		Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.				
		-	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes				
		nedical personnel.					
	In Case		Wash out mouth with wate to an unconscious person	er provided persor . Get medical atte	n is conscious. N	• • • •	



Revision: 04/07/2014 Supersedes Revision: 02/25/2011

					Superse	des Revision: 02/25/2011	
			Section 5.	Fire Fighting	Measures		
5.1	Suitabl	e Extinguishing			ide, water, or dry chemical	spray.	
	Media:			cool fire-exposed co	ntainers.		
	Unsuita		A solid water strear	n may be inefficient.			
E 0	-	uishing Media:	No data availabla				
5.2	and Ha	zards:	No data available.				
	Flash P		No data.				
	-	ive Limits:	LEL: No data.	UE	EL: No data.		
	-	nition Pt:	No data.				
5.3	Fire Fig		•		hing apparatus pressure-d tive gear to prevent contac	•	
			Section 6. Acc	cidental Releas	se Measures		
6.1	Protective EquipmentAs conditions waand Emergencyrespirator, and approximation		As conditions warra	ant, wear a NIOSH a	rovide adequate ventilation opproved self-contained bre otection (rubber boots, safe	eathing apparatus, or	
6.2	Enviror Precau	nmental tions:	Take steps to avoid release into the environment, if safe to do so.				
6.3		ls and Material ntainment and ng Up:	Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations			with local regulations.	
			Section 7.	Handling and	Storage		
7.1	Precau	tions To Be	Avoid breathing due	st/fume/gas/mist/vap			
		n Handling:		repeated exposure.			
7.2		tions To Be	Keep container tigh	•	ted on the product insert.		
		n Storing: Precautions:	Light sensitive. Moisture sensitive.		ted on the product insert.		
		Sect	ion 8. Exposu	re Controls/Pe	rsonal Protection		
8.1	Exposi	re Parameters:					
CAS	#	Partial Chemical	Name	Britain EH40	France VL	Europe	
	NA	HDAC Developer		No data.	No data.	No data.	
CAS	#	Partial Chemical	Name	OSHA TWA	ACGIH TWA	Other Limits	
	NA	HDAC Developer		No data.	No data.	No data.	
8.2 8.2.1	•	ure Controls: ering Controls		auros, local oxbaust	ventilation, or other engine	oring controls to	
	(Ventila	ation etc.):	control airborne lev		nded exposure limits.		
8.2.2		nal protection e					
	Eye Protection: Protective Gloves:		Safety glasses Compatible chemical-resistant gloves				
		rotective	Lab coat	arresistant gioves			
	Clothin	g:					
	•	atory Equipment y Type):	NIOSH approved re	espirator, as conditio	ns warrant.		



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	Work/Hygienic/Mainter	•
	ance Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and
		a safety shower. Wash thoroughly after handling
		Wash thoroughly after handling.
		esting 0. Dhusing land Chaming I Dran artic
		ection 9. Physical and Chemical Properties
9.1		Physical and Chemical Properties
	Physical States:	[]Gas []Liquid [X]Solid
	Appearance and Odor	
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	No data.
	Evaporation Rate:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Vapor Pressure (vs. Ai mm Hg):	ir or No data.
	Vapor Density (vs. Air	= 1): No data.
	Specific Gravity (Wate	-
	Solubility in Water:	No data.
	Autoignition Pt:	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]
10.2	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
10.0	Polymerization:	Will occur [] Will not occur [X]
10.4	-	No data available.
10.4		strong oxidizing agents
10.5	Incompatibility - Materials To Avoid:	
10.6	Hazardous	No data available.
	Decomposition Or	
	Byproducts:	
		Multi-region forma



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	Section 11. Toxicological Information						
11.1	Informa Toxicol	tion on ogical Effects:	The toxicological eff	fects of th	is product have r	not been thorough	ly studied.
Carc	inogenici	-	NTP? No IARC	C Monogra	aphs? No O	SHA Regulated?	No
			Section 12.	Ecolo	gical Informa	ation	
12.1	Toxicity	/:	Avoid release into th	ne enviror	nment.		
			Runoff from fire con	trol or dilu	ution water may o	cause pollution.	
			Section 13.	Dispos	al Considera	ations	
13.1	Waste I Method	Disposal :	Dispose in accordar	nce with lo	ocal, state, and f	ederal regulations	
			Section 14	. Trans	sport Informa	ation	
14.1	14.1 LAND TRANSPORT (US DOT):						
0	-	rd Class:	me: Not dangerous o	goods.			
14.1	LAND	TRANSPORT (European ADR/RID):	:			
A		Shipping Name	• • •				
ŀ	lazard Cl	ass:					
14.3		RANSPORT (IC	•				
			ne: Not dangerous g	-			
	itional Transform	ansport	Transport in accord	ance with	i local, state, and	federal regulation	IS.
			Section 15.	Reaul	atory Inform	ation	
EPA	SARA (Su	perfund Amendr	nents and Reauthoriza				
CAS	-	1	ponents (Chemical Na		S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
	NA	HDAC Develope	r		No	No	No
CAS	#	Hazardous Com	ponents (Chemical Na	ame)	Other US EPA o	r State Lists	
	NA	HDAC Develope		,	CAA HAP,ODC: PROP.65: No	No; CWA NPDES:	No; TSCA: No; CA
Euro	opean Co	[,] mmunity Hazar	rd Symbol codes:				
Xi							
Euro	opean Co	mmunitv Risk :	and Safety Phrases:				
	/37/38	-	Irritating to eyes, resp		stem and skin.		
R42			May cause sensitizati				
S22			Do not breathe dust.				
S24			Avoid contact with ski	•			
S36	/37/39		Wear suitable protecti	ive clothir	ng, gloves and ey	/e/face protection.	



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Regulatory Information Statement:	This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended. Section 16 Other Information			
	Section 16. Other Information			
Revision Date:	04/07/2014			
Additional Information About This Product:	No data available.			
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.			



		ording to Regulation (EC) No. 1907/2006 as amended by (E	C(1) NO. $1272/2000$
	Section 1. I	dentification of the Substance/Mixture and of the	e Company/Undertaking
1.1	Product Code:	10011617	
	Product Name:	HDAC1 Positive Control	
1.2	Relevant identified uses	s of the substance or mixture and uses advi	ised against:
	Relevant identified uses	s: For research use only, not for human or vet	erinary use.
1.3	Details of the Supplier	of the Safety Data Sheet:	
	Company Name:	Cayman Chemical Company	
		1180 E. Ellsworth Rd.	
		Ann Arbor, MI 48108	
	Web site address:	www.caymanchem.com	.4 (704)074 0005
	Information:	Cayman Chemical Company	+1 (734)971-3335
1.4	Emergency telephone r		.1 (200) 404 0200
	Emergency Contact:	CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887
		Section 2. Hazards Identifica	ition
2.1	Classification of the Su	bstance or Mixture:	
2.1.1	Classification accordin	ng to Regulation (EC) No 1272/2008 [CLP]:	
	Skin Corrosion/Irritatio	n, Category 3	
	Serious Eye Damage/E	ye Irritation, Category 2A	
2.1.2	Classification accordin	ng to Directive 1999/45/EC:	
	Xi: Irritant		
	Risk Phrases: R36/38		
	For full text of R- phras Label Elements:	Ses: see SECTION 15.	
~ ^			
		Pagulation (EC) No 1272/2008 [CI P].	
		Regulation (EC) No 1272/2008 [CLP]:	
		Regulation (EC) No 1272/2008 [CLP]:	
		Regulation (EC) No 1272/2008 [CLP]:	
		Regulation (EC) No 1272/2008 [CLP]:	
2.2.1	Labeling according to		
2.2.1	Labeling according to	Regulation (EC) No 1272/2008 [CLP]: Warning	
2.2.1	Labeling according to Control of the second	Warning	
2.2.1	Labeling according to Control of the second	Warning rritation.	
2.2.1	Labeling according to CHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin in H319: Causes serious ey	Warning rritation. re irritation.	
2.2.1	Labeling according to Control of the second	Warning rritation. re irritation.	
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin in H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor	Warning rritation. re irritation. es: roughly after handling.	otection
2.2 2.2.1	Labeling according to Control of the second	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pr	otection}.
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin in H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thom P280: Wear {protective g GHS Response Phrases	Warning rritation. re irritation. es: oughly after handling. loves/protective clothing/eye protection/face pr	otection}.
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin in H319: Causes serious ey GHS Precaution Phrases P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio	Warning rritation. re irritation. es: oughly after handling. loves/protective clothing/eye protection/face pr s: n occurs, get medical advice/attention.	
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin ii H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pr s: n occurs, get medical advice/attention. 'ES: Rinse cautiously with water for several mir	
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin in H319: Causes serious ey GHS Precaution Phrases P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C	Warning rritation. re irritation. res: oughly after handling. loves/protective clothing/eye protection/face pr s: n occurs, get medical advice/attention. ES: Rinse cautiously with water for several mir Continue rinsing.	
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin in H319: Causes serious ey GHS Precaution Phrases P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C P337+313: If eye irritation	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pr s: n occurs, get medical advice/attention. ES: Rinse cautiously with water for several mir Continue rinsing. n persists, get medical advice/attention.	
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin ii H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C P337+313: If eye irritation GHS Storage and Dispon	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pros: n occurs, get medical advice/attention. S: n occurs, get medical advice/attention. S: n persists, get medical advice/attention. Sal Phrases:	nutes. Remove contact lenses, if
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin ii H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C P337+313: If eye irritation GHS Storage and Dispon	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pr s: n occurs, get medical advice/attention. ES: Rinse cautiously with water for several mir Continue rinsing. n persists, get medical advice/attention.	nutes. Remove contact lenses, if
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin ii H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C P337+313: If eye irritation GHS Storage and Dispon	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pros: n occurs, get medical advice/attention. S: n occurs, get medical advice/attention. S: n persists, get medical advice/attention. Sal Phrases:	nutes. Remove contact lenses, if
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin ii H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C P337+313: If eye irritation GHS Storage and Dispon	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pros: n occurs, get medical advice/attention. S: n occurs, get medical advice/attention. S: n persists, get medical advice/attention. Sal Phrases:	nutes. Remove contact lenses, if
2.2.1	Labeling according to GHS Signal Word: GHS Hazard Phrases: H316: Causes mild skin ii H319: Causes serious ey GHS Precaution Phrase P264: Wash {hands} thor P280: Wear {protective g GHS Response Phrases P332+313: If skin irritatio P305+351+338: IF IN EY present and easy to do. C P337+313: If eye irritation GHS Storage and Dispon	Warning rritation. re irritation. res: roughly after handling. loves/protective clothing/eye protection/face pros: n occurs, get medical advice/attention. S: n occurs, get medical advice/attention. S: n persists, get medical advice/attention. Sal Phrases:	nutes. Remove contact lenses, if



2.2.2 Labeling according to Directive 1999/45/EC:



C:

-

2.3 Adverse Human Health Causes mild skin irritation.

Effects and Symptoms: Causes serious eye irritation.

Material may be irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption.

May cause respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

	Sec	tion 3. Compositior	n/Information	on Ingredie	nts	
CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.		Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification	
NA HDAC1 (human rec NA		ombinant)	5.0 -15.0 %	NA NA	No phrases apply. No data available.	
7365-45-9 TL6809000	HEPES, free acid		0.0 -5.0 %	230-907-9 NA	Xi; R36/38 Skin Corr. 2: H315 Eye Damage 2A: H319	
7732-18-5 ZC0110000	Water		80.0 -95.0 %	231-791-2 NA	No phrases apply. No data available.	
		Section 4. F	irst Aid Meas	sures		
Meas	 4.1 Description of First AidNo data available. Measures: In Case of Inhalation: Remove to fresh ai 		t breathing, give a medical attentior	-	on or give oxygen by trained	
In Case of Skin Contact: In Case of Eye Contact: In Case of Eye Contact: In Case of Ingestion: In Case of Ingestion: Contact: Con		Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.				
		Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.				
			water provided person is conscious. Never give anything by mo rson. Get medical attention. Do NOT induce vomiting unless nedical personnel.			
		Section 5. Fire	Fighting Me	easures		
5.1 Suita					nemical spray.	

	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	A solid water stream may be inefficient.					
Extinguishing Media:								
	5.2	Flammable Properties	No data available.					
		and Hazards:						
		Flash Pt:	No data.					
		Explosive Limits:	LEL: No data.	UEL: No data.				
		Autoignition Pt:	No data.					
	5.3	Fire Fighting	As in any fire, wear self-contained br	eathing apparatus pressure-demand (NIOSH				

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						des Revision: 02/25/2011	
	Instruc	ctions:			ctive gear to prevent contac	t with skin and eyes.	
			Section 6. Ac	cidental Relea	se Measures		
6.1	Protective Precautions Protective Equipment and Emergency Procedures:		Avoid breathing vapors 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	Enviro Precau	nmental itions:	Take steps to avoi	d release into the er	nvironment, if safe to do so.		
6.3	Methods and Material For Containment and Cleaning Up:		Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.				
			Section 7.	Handling and	d Storage		
7.1 7.2	Taken Precau	itions To Be in Handling: itions To Be in Storing:	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure. Keep container tightly closed. Store in accordance with information listed on the product insert.				
		Sec	tion 8. Exposu	ire Controls/Pe	ersonal Protection		
8.1	Expos	ure Parameters:					
CAS	#	Partial Chemical	Name	Britain EH40	France VL	Europe	
	NA	HDAC1 (human recombinant)		No data.	No data.	No data.	
736	65-45-9	HEPES, free acid		No data.	No data.	No data.	
7732-18-5		Water		No data.	No data.	No data.	
CAS #		Partial Chemical Name		OSHA TWA	ACGIH TWA	Other Limits	
	NA	HDAC1 (human re	ecombinant)	No data.	No data.	No data.	
736	65-45-9	HEPES, free acid		No data.	No data.	No data.	
773	32-18-5	Water		No data.	No data.	No data.	
8.2 8.2.1 8.2.2	Engine (Ventil	ure Controls: eering Controls ation etc.): nal protection e	control airborne lev		ventilation, or other engine nded exposure limits.	ering controls to	
0.2.2	Eye Protection:		Safety glasses				
	•	tive Gloves:	Compatible chemical-resistant gloves				
	Other Protective Clothing:		Lab coat				
	•	atory Equipmen fy Type):	t NIOSH approved r	espirator, as condition	ons warrant.		
			n Do not take interna	•			
		raatiooo	Excilition storing or	utilizing this motori	al chauld ha aquippad with a	on avawaah faaility and	

ance Practices: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.



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9.1							
. 1	S	Section 9. Physical and Chemical Properties					
7. I	Information on Basic Physical and Chemical Properties						
	Physical States: [] Gas [X] Liquid [] Solid						
	Appearance and Odor:	r: Solution					
	pH:	7.5					
	Melting Point:	No data.					
	Boiling Point:	No data.					
	Flash Pt:	No data.					
	Evaporation Rate:	No data.					
	Explosive Limits:	LEL: No data. UEL: No data.					
	Vapor Pressure (vs. Ai	hir or No data.					
	mm Hg):						
	Vapor Density (vs. Air	r = 1): No data.					
	Specific Gravity (Water	er = 1): No data.					
	Solubility in Water:	No data.					
	Autoignition Pt:	No data.					
9.2	Other Information						
	Percent Volatile:	No data.					
		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:						
0.5	Incompatibility -	No data available.					
	Materials To Avoid:						
0.6	Hazardous	No data available.					
	Decomposition Or						
	Byproducts:						
		Section 11. Toxicological Information					
1.1	Information on	The toxicological effects of this product have not been thoroughly studied.					
	Toxicological Effects:						
Carcin	nogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No					
		Section 12. Ecological Information					
2.1	Toxicity:	Avoid release into the environment.					
	-	Runoff from fire control or dilution water may cause pollution.					



Section 13. Disposal Considerations

13.1 Waste Disposal Dispose in accordance with local, state, and federal regulations. Method: Section 14. Transport Information 14.1 LAND TRANSPORT (US DOT): DOT Proper Shipping Name: Not dangerous goods. **DOT Hazard Class: UN/NA Number:** 14.1 LAND TRANSPORT (European ADR/RID): Not dangerous goods. ADR/RID Shipping Name: **UN Number:** Hazard Class: 14.3 AIR TRANSPORT (ICAO/IATA): ICAO/IATA Shipping Name: Not dangerous goods. Additional Transport Transport in accordance with local, state, and federal regulations. Information: Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) NA HDAC1 (human recombinant) No No No 7365-45-9 HEPES, free acid No No No 7732-18-5 Water No No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Lists CAA HAP, ODC: No; CWA NPDES: No; TSCA: No; CA NA HDAC1 (human recombinant) PROP.65: No CAA HAP, ODC: No; CWA NPDES: No; TSCA: Inventory; CA 7365-45-9 HEPES, free acid PROP.65: No 7732-18-5 Water CAA HAP, ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No **European Community Hazard Symbol codes:** Xi **European Community Risk and Safety Phrases:** R36/38 Irritating to eyes and skin. S24/25 Avoid contact with skin and eyes. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. **Regulatory Information** This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and Statement: European Directive 67/548/EEC as amended. Multi-region format



Section 16. Other Information

Revision Date:

Additional Information About No data available.

04/07/2014

This Product:

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