

Revision: 11/13/2015

Supersedes Revision: 04/27/2015 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:** 400146 Product Name: Cell-Based Assay Calcein AM (1,000X) 1.2 Relevant identified uses of the substance or mixture and uses advised against: **Relevant identified uses:** For research use only, not for human or veterinary use. 1.3 Details of the Supplier of the Safety Data Sheet: **Company Name:** Cayman Chemical Company 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 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 **Classification of the Substance or Mixture:** Flammable Liquids, Category 4 Skin Corrosion/Irritation, Category 2 Serious Eye Damage/Eye Irritation, Category 2A 2.2 Label Elements: **GHS Signal Word:** Warning **GHS Hazard Phrases:** H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye irritation. **GHS Precaution Phrases:** P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking. P264: Wash {hands} thoroughly after handling. P280: Wear {protective gloves/protective clothing/eye protection/face protection}. **GHS Response Phrases:** P302+352: IF ON SKIN: Wash with plenty of soap and water. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+313: If skin irritation occurs, get medical advice/attention. P337+313: If eye irritation persists, get medical advice/attention. P362+364: Take off contaminated clothing and wash it before reuse. **GHS Storage and Disposal Phrases:** Please refer to Section 7 for Storage and Section 13 for Disposal information.



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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.	GHS Classification
148504-34-1 NA	Calcein AM	0.1 %	NA NA	No data available.
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	99.9 %	200-664-3 NA	Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315

Section 4. First Aid Measures

4.1	Description of First Aid	
	Measures:	
	In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained
		personnel. Get immediate medical attention.
	In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove
		contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
	In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes
		examined and tested by medical personnel.
	In Case of Ingestion:	Wash out mouth with water provided person is conscious. Never give anything by mouth to an
		unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by
		medical personnel.
4.2	Important Symptoms and	d Exposure may cause: hematuria or shortness of breath (dyspnea).
	Effects, Both Acute and	Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache,
	Delayed:	dizziness, and drowsiness.
		Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing	A solid water stream may be inefficient.
	Media:	
5.2	Flammable Properties an	dCan release vapors that form explosive mixtures at temperatures at or above the flashpoint.
	Hazards:	Container explosion may occur under fire conditions.
		Emits toxic fumes under fire conditions.
		Sensitive to static discharge.
		Vapors can travel to a source of ignition and flash back.
		No data available.
	Flash Pt:	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



. (9		Cell-Base	d Assay Calceii	n AM (1,000X)	Revision: 11/13/2015		
cay	man				Supers	edes Revision: 04/27/2015		
5.3	Fire Fig	hting Instructions	As in any fire, wear s	elf-contained breathing	apparatus pressure-deman	d (NIOSH approved or		
		equivalent), and full protective gear to prevent contact with skin and eyes.						
			Note: Combustible as	s diluted in dimethyl su	lfoxide			
			Section 6. Ac	cidental Relea	se Measures			
6.1	Protect	ive Precautions,	Avoid breathing vapo	ors and provide adequa	ate ventilation.			
	Protect	ive Equipment an	As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,					
Emergency Procedures: and appropriate personal protection (rubber boots, safety goggles, and heavy rubber glov						neavy rubber gloves).		
6.2	2 Environmental Take steps to avoid release into the environment, if safe to do so.							
	Precau	tions:						
6.3	Method	s and Material Fo	r Contain spill and coll	ect, as appropriate.				
	Contair	ment and Cleanir	gTransfer to a chemic	al waste container for	disposal in accordance with I	ocal regulations.		
	Up:							
			Section 7.	Handling and	Storage			
7.1	Precau	tions To Be Taken	Avoid breathing dust/	-	•			
	in Hanc	lling:	Avoid prolonged or re					
		-	Keep away from sources of ignition.					
			Take precautionary m	neasures against static	discharge.			
7.2	Precaut	tions To Be Taken	Taken Keep away from heat, sparks and flame.					
	in Stori	ng:	Keep container tightly closed.					
			Store in accordance with information listed on the product insert.					
	Other P	recautions:	Hygroscopic.					
		Sec	tion 8. Exposu	ire Controls/Pe	rsonal Protection			
8.1	Exposu	re Parameters:						
CAS	#	Partial Chemical	Name	Britain EH40	France VL	Europe		
1485	504-34-1	Calcein AM		No data.	No data.	No data.		
67	7-68-5	Dimethyl sulfoxide	e, anhydrous	No data.	No data.	No data.		
CAS	#	Partial Chemical	Name	OSHA TWA	ACGIH TWA	Other Limits		
1485	504-34-1	Calcein AM		No data.	No data.	No data.		
67	7-68-5	Dimethyl sulfoxide	e, anhydrous	No data.	No data.	No data.		
8.2	Exposu	re Controls:		•		ł		
8.2.1	Engine	ering Controls	Use process enclosu	res, local exhaust vent	ilation, or other engineering o	controls to control airborn		
	(Ventila	tion etc.):	levels below recomm	ended exposure limits.				
8.2.2	Person	al protection equi	pment:					
	Eye Pro	otection:	Safety glasses					
	Protect	ive Gloves:	Compatible chemical	-resistant gloves				
	Other P	Protective Clothing	J:Lab coat					
	Respira	atory Equipment	NIOSH approved res	pirator, as conditions w	varrant.			
	(Creatify							

(Specify Type):

Work/Hygienic/Maintenan Do not take internally.

 ce Practices:
 Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

 Wash thoroughly after handling.

No data available.



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	Se	ection 9. Physical and Chemical Properties
9.1	Information on Basic Physi	ical and Chemical Properties
	Physical States:	[]Gas [X]Liquid []Solid
	Appearance and Odor:	Solution
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	89.00 C Method Used: Closed Cup
	Evaporation Rate:	No data.
	Flammability (solid, gas):	No data available.
	Explosive Limits:	LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
	Vapor Pressure (vs. Air or	mm 0.37 MM_HG at 20.0 C
	Hg):	
	Vapor Density (vs. Air = 1)	: No data.
	Specific Gravity (Water = 1	1): No data.
	Solubility in Water:	No data.
	Autoignition Pt:	215.00 C
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:	heat, flames and sparks
10.5	Incompatibility - Materials	acid chlorides
	To Avoid:	phosphorus halides
		strong acids
		alkali metals
		strong oxidizing agents
		strong reducing agents
10.6		carbon monoxide
	2000	carbon dioxide
	Byproducts:	sulfur oxides



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			Sectio	n 11. Toxicologica	l Informa	ation		
11.1	Informat	ion on		gical effects of this product h			udied.	
	Toxicological Effects:DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; C (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 Inhalation LC50 (rat): >1,600 mg/m3 (4h); DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;							,800 mg/kg;
	Chronic Effects:	Toxicological		estigated as a mutagen, repr Registry of Toxic Effects of C			-	esented here.
				entry in RTECS for complete CS Number: PV6210000	information.			
Carciı	nogenicity	': 	NTP? No	IARC Monographs? No	OSHA Re	egulated? No		
CAS	#	Hazardous Com	nponents (Chemical Name)		NTP	IARC	ACGIH	OSHA
1485	04-34-1	Calcein AM			n.a.	n.a.	n.a.	n.a.
67	-68-5	Dimethyl sulfoxid	e, anhydrous		n.a.	n.a.	n.a.	n.a.
			Secti	on 12. Ecological	Informat	ion		
12.1	Toxicity:			e into the environment.				
				fire control or dilution water r	nay cause po	ollution.		
12.2	Persister Degrada		No data ava	ilable.				
12.3	Bioaccu	-	No data ava	ilahle				
12.0	Potentia							
12.4	Mobility	in Soil:	No data ava	ilable.				
12.5	Results	of PBT and vPvB	No data ava	ilable.				
	assessm	ent:						
12.6	Other ad	verse effects:	No data ava	ilable.				
			Sectio	on 13. Disposal Co	nsiderati	ions		
13.1	Waste D	isposal Method:	Dispose in a	ccordance with local, state, a	and federal re	egulations.		
			Sec	tion 14. Transport	Informat	ion		
14.1	LAND T	RANSPORT (US I	DOT):					
D	OT Prope	r Shipping Name:	Not dan	gerous goods.				
D	OT Hazaro	d Class:						
U	N/NA Num	nber:						
14.1		RANSPORT (Euro	•	•				
		nipping Name:	Not dan	gerous goods.				
-	N Number azard Clas							
14.3		NSPORT (ICAO/I	ATA):					
		Shipping Name:	-	gerous goods.				
	ional Trar		Transport in	accordance with local, state	, and federal	regulations.		
	mation:	-	·	·		-		



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		Section 15. Regu	liatory Inform	ation	
EPA SARA (Si	uperfund Amendn	nents and Reauthorization Act	t of 1986) Lists		
CAS #	Hazardous Com	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
148504-34-1	Calcein AM		No	No	No
67-68-5	Dimethyl sulfoxic	le, anhydrous	No	No	No
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA o	r State Lists	
148504-34-1	Calcein AM		CAA HAP,ODC: PROP.65: No	No; CWA NPDES:	No; TSCA: No; CA
67-68-5	Dimethyl sulfoxic	le, anhydrous	CAA HAP,ODC: Inventory; CA P	No; CWA NPDES: ROP.65: No	No; TSCA: Yes -
Regulatory Inf	ormation	This SDS was prepared in acc	ordance with 29 CFF	R 1910.1200 and Re	egulation (EC)
Statement:		No.1272/2008.			
		Section 16. Ot	her Information	on	
Revision Date:		11/13/2015			
Additional Info	rmation About	No data available.			
This Product:					
		their particular purposes.			



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gy	<u>111911</u>		
	accord	ling to Regulation (EC) No. 1907/2006 as amended by ((EC) No. 1272/2008
	Section 1. Ide	entification of the Substance/Mixture and of th	ne Company/Undertaking
1	Product Code:	600371	
	Product Name:	Cell-Based Assay Cyclosporin A	
2	Relevant identified uses of t	he substance or mixture and uses advised aga	ainst:
	Relevant identified uses:	For research use only, not for human or vetering	nary use.
3	Details of the Supplier of the	e Safety Data Sheet:	
	Company Name:	Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108	
	Web site address:	www.caymanchem.com	
	Information:	Cayman Chemical Company	+1 (734)971-3335
4	Emergency telephone numb	er:	
	Emergency Contact:	CHEMTREC Within USA and Canada:	+1 (800)424-9300
		CHEMTREC Outside USA and Canada:	+1 (703)527-3887
		Section 2. Hazards Identifica	ation
1	Flammable Liquids, Categ Skin Corrosion/Irritation, (Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca	Category 2 Irritation, Category 2A 1B	
2	Skin Corrosion/Irritation, (Serious Eye Damage/Eye Carcinogenicity, Category	Category 2 Irritation, Category 2A 1B	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements:	Category 2 Irritation, Category 2A 1B ategory 1B	
	Skin Corrosion/Irritation, (Serious Eye Damage/Eye Carcinogenicity, Category Toxic To Reproduction, Ca	Category 2 Irritation, Category 2A 1B	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements:	Category 2 Irritation, Category 2A 1B ategory 1B	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases:	Category 2 Irritation, Category 2A 1B ategory 1B Danger	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid.	Category 2 Irritation, Category 2A 1B ategory 1B Danger	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer.	Category 2 Irritation, Category 2A 1B ategory 1B Danger	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of	Category 2 Irritation, Category 2A 1B ategory 1B Danger	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases:	Category 2 Irritation, Category 2A 1B ategory 1B Danger Tritation.	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct	Category 2 Irritation, Category 2A 1B ategory 1B Danger Tritation. or the unborn child.	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct	Category 2 Irritation, Category 2A 1B ategory 1B Danger Tritation. Fritation. For the unborn child.	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct P202: Do not handle until al P210: Keep away from {hea	Category 2 Irritation, Category 2A 1B ategory 1B Danger Danger rritation. or the unborn child. tions before use. I safety precautions have been read and understor t/sparks/open flames/hot surfaces} No smoking	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct P202: Do not handle until al P210: Keep away from {hea P264: Wash {hands} thoroug	Category 2 Irritation, Category 2A 1B ategory 1B Danger Danger rritation. or the unborn child. tions before use. I safety precautions have been read and understor t/sparks/open flames/hot surfaces} No smoking	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct P202: Do not handle until al P210: Keep away from {hea P264: Wash {hands} thoroug	Category 2 Irritation, Category 2A 1B ategory 1B Danger Danger rritation. or the unborn child. tions before use. I safety precautions have been read and understoo t/sparks/open flames/hot surfaces} No smoking ghly after handling.	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct P202: Do not handle until al P210: Keep away from {hea P264: Wash {hands} thoroug P280: Wear {protective glow GHS Response Phrases:	Category 2 Irritation, Category 2A 1B ategory 1B Danger Danger rritation. or the unborn child. tions before use. I safety precautions have been read and understoo t/sparks/open flames/hot surfaces} No smoking ghly after handling.	
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct P202: Do not handle until al P210: Keep away from {hea P264: Wash {hands} thoroug P280: Wear {protective glow GHS Response Phrases: P302+352: IF ON SKIN: Wa	Category 2 Irritation, Category 2A 1B ategory 1B Danger Danger rritation. or the unborn child. tions before use. I safety precautions have been read and understoo t/sparks/open flames/hot surfaces} No smoking ghly after handling. es/protective clothing/eye protection/face protection	on}.
	Skin Corrosion/Irritation, G Serious Eye Damage/Eye I Carcinogenicity, Category Toxic To Reproduction, Ca Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H315: Causes skin irritation. H319: Causes serious eye in H350: May cause cancer. H360: May damage fertility of GHS Precaution Phrases: P201: Obtain special instruct P202: Do not handle until al P210: Keep away from {hea P264: Wash {hands} thoroug P280: Wear {protective glow GHS Response Phrases: P302+352: IF ON SKIN: Wa	Category 2 Irritation, Category 2A 1B ategory 1B Danger Danger rritation. or the unborn child. tions before use. I safety precautions have been read and understor t/sparks/open flames/hot surfaces} No smoking ghly after handling. es/protective clothing/eye protection/face protection ish with plenty of soap and water.	on}.



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P332+313: If skin irritation occurs, get medical advice/attention. P337+313: If eye irritation persists, get medical advice/attention. P362+364: Take off contaminated clothing and wash it before reuse. **GHS Storage and Disposal Phrases:** Please refer to Section 7 for Storage and Section 13 for Disposal information. 2.3 Adverse Human Health Causes skin and serious eye irritation. DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body. Effects and Symptoms: 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 cancer. May cause respiratory system irritation. May damage fertility or the unborn child. 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.	GHS Classification
59865-13-3 GZ4120000	Cyclosporin A	2.405 %	NA NA	Acute Tox.(O) 4: H302 Carcinogen 1B: H350 Toxic Repro. 1B: H360
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	97.595 %	200-664-3 NA	Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315

Section 4. First Aid Measures 4.1 **Description of First Aid** Measures: In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention. In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel. In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel. 4.2 Important Symptoms and Exposure may cause: hematuria or shortness of breath (dyspnea). Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, Effects, Both Acute and dizziness, and drowsiness. **Delayed:** Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.



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		Section 5	 Fire Fighting N 	Aeasures				
5.1	Suitable Extinguishing	Use alcohol-resista	ant foam, carbon dioxide, v	water, or dry chemical spray.				
	Media:	Use water spray to	cool fire-exposed contain	ers.				
	Unsuitable Extinguishi	suitable Extinguishing A solid water stream may be inefficient.						
	Media:							
5.2	Flammable Properties	andCan release vapor	s that form explosive mixtu	ures at temperatures at or ab	oove the flashpoint.			
	Hazards:	Container explosio	on may occur under fire co	nditions.				
		Emits toxic fumes	under fire conditions.					
		Sensitive to static of	discharge.					
		No data available.						
	Flash Pt:	89.00 C Method	Used: Closed Cup					
	Explosive Limits:	LEL: 3.5% a	at 25.0 C UEL: 42	2.0% at 25.0 C				
	Autoignition Pt:	215.00 C						
5.3	Fire Fighting Instruction	ns: As in any fire, wea	r self-contained breathing	apparatus pressure-demand	I (NIOSH approved or			
		equivalent), and fu	Il protective gear to prever	nt contact with skin and eyes	S.			
		Note: Combustible	as diluted in dimethyl sulf	oxide				
		Section 6. A	ccidental Releas	e Measures				
6.1	Protective Precautions	, Avoid breathing va	apors and provide adequa	te ventilation.				
	Protective Equipment	and As conditions warr	rant, wear a NIOSH appro	ved self-contained breathing	apparatus, or respirato			
	Emergency Procedure	s: and appropriate pe	ersonal protection (rubber	boots, safety goggles, and h	neavy rubber gloves).			
6.2	Environmental	Take steps to avoi	id release into the environ	ment, if safe to do so.				
	Precautions:							
6.3	Methods and Material	Methods and Material For Contain spill and collect, as appropriate.						
	Containment and Clear	ningTransfer to a chem	nical waste container for d	isposal in accordance with lo	ocal regulations.			
	Up:							
		Section	7. Handling and	Storage				
7.1	Precautions To Be Tak		7. Handling and	-				
7.1		en Avoid breathing du	ist/fume/gas/mist/vapours/	-				
7.1	Precautions To Be Tak in Handling:	en Avoid breathing du	ist/fume/gas/mist/vapours/ r repeated exposure.	-				
7.1		en Avoid breathing du Avoid prolonged or Keep away from so	ist/fume/gas/mist/vapours/ r repeated exposure.	/spray.				
		en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static	/spray.				
	in Handling:	en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame.	/spray.				
	in Handling: Precautions To Be Tak	 Avoid breathing du Avoid prolonged or Keep away from so Take precautionary Keep away from he Keep container tigh 	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame.	/spray. discharge.				
7.1	in Handling: Precautions To Be Tak	 Avoid breathing du Avoid prolonged or Keep away from so Take precautionary Keep away from he Keep container tigh 	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame. htly closed.	/spray. discharge.				
	in Handling: Precautions To Be Tak in Storing: Other Precautions:	 en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary en Keep away from he Keep container tigh Store in accordanc Hygroscopic. 	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame. htly closed. ce with information listed o	discharge. n the product insert.				
7.2	in Handling: Precautions To Be Tak in Storing: Other Precautions:	 en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary en Keep away from he Keep container tigh Store in accordanc Hygroscopic. 	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame. htly closed. ce with information listed o	/spray. discharge.				
7.2	in Handling: Precautions To Be Tak in Storing: Other Precautions: Se Exposure Parameters:	 en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary en Keep away from he Keep container tigh Store in accordanc Hygroscopic. ection 8. Expose 	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame. htly closed. ce with information listed o	discharge. n the product insert.	Europe			
7.2 8.1 CAS	in Handling: Precautions To Be Tak in Storing: Other Precautions: Se Exposure Parameters: # Partial Chemic	 en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary en Keep away from he Keep container tigh Store in accordanc Hygroscopic. ection 8. Expose 	ist/fume/gas/mist/vapours/ r repeated exposure. ources of ignition. y measures against static eat, sparks and flame. htly closed. the with information listed o	discharge. n the product insert. rsonal Protection	Europe No data.			
7.2 8.1 CAS 598	in Handling: Precautions To Be Tak in Storing: Other Precautions: Se Exposure Parameters:	en Avoid breathing du Avoid prolonged or Keep away from so Take precautionary en Keep away from he Keep container tigh Store in accordanc Hygroscopic. ection 8. Expos	Ist/fume/gas/mist/vapours/ r repeated exposure. Durces of ignition. y measures against static eat, sparks and flame. htly closed. Se with information listed o SURE CONTROIS/Per Britain EH40	discharge. n the product insert. rsonal Protection France VL				



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CAS # Partial Chemica			lame	OSHA TWA	ACGIH TWA	Other Limits
5986	65-13-3 C	cyclosporin A		No data.	No data.	No data.
		Dimethyl sulfoxide,	anhydrous	No data.	No data.	No data.
3.2	Exposure	-	,		Į	
3.2.1			Use process encl	osures, local exhaust vent	tilation, or other engineering c	ontrols to control airbo
	(Ventilatio	on etc.):	evels below reco	mmended exposure limits		
3.2.2	Personal	protection equip	ment:			
	Eye Prote	ction:	Safety glasses			
	Protective	e Gloves:	Compatible chem			
	Other Pro	tective Clothing:	_ab coat			
	Respirato	ry Equipment	NIOSH approved	respirator, as conditions v	varrant.	
	(Specify T	ype):				
	Work/Hyg	ienic/Maintenan	Do not take interr	nally.		
	ce Practic	es:	Facilities storing of	or utilizing this material sho	ould be equipped with an eye	vash facility and a safe
			shower.	<i>.</i>		
			Wash thoroughly	-		
			No data available			
		Se	ction 9. Ph	nysical and Cherr	nical Properties	
9.1	Informatio	n on Basic Physi	cal and Chemica	al Properties		
	Physical S	States:	[]Gas	[X]Liquid []Solic	ł	
	Appearan	ce and Odor:	Solution			
	Melting Po	oint:	No data.			
	Boiling Po	pint:	No data.			
	Flash Pt:		89.00 C	Method Used: Closed C	up	
	Evaporati		No data.			
		lity (solid, gas):	No data a			
	Explosive		LEL: 3.5		JEL: 42.0% at 25.0 C	
	-	ssure (vs. Air or	mm 0.37 MM	L_HG at 20.0 C		
	Hg): Manan Day		Ne dete			
	-	nsity (vs. Air = 1):				
	•	Fravity (Water = 1	-			
	Solubility		No data.			
	Autoigniti		215.00 C			
9.2	Other Info		NI 17			
	Percent V	olatile:	No data.			
			Section	10. Stability and	Reactivity	
10.1	Reactivity	/: I	No data available			
10.2	Stability:	I	Unstable []	Stable [X]		
10.3	Stability N	lote(s):	Stable if stored in	accordance with informat	ion listed on the product inser	t.
	Polymeriz	ation:	Will occur []	Will not occur [X]		
10.4	Condition	s To Avoid:	neat, flames and	sparks		
10.5	-	bility - Materials	acid chlorides			
	To Avoid:		alkali metals			
			aluminum			
			phosphorus halid	es		



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			strong acids strong oxidizing agents						
			strong reducing agents						
10.6	Hazardo	us	carbon monoxide						
	Decomp	osition or	carbon dioxide						
	Byprodu	icts:	nitrogen oxides						
			sulfur oxides						
			Section 11. Toxicologica	al Informa	tion				
11.1	Informat	ion on	The toxicological effects of this product	have not been	thoroughly st	tudied.			
	Toxicolo	gical Effects:	Cyclosporin A - Toxicity Data: Oral TDL	O (human): 12	mg/kg; Oral	LD50 (rat): 1,4	30 mg/kg; Oral		
			LD50 (mouse): 2,329 mg/kg; Oral LD50	(rabbit): >1 g/l	kg.				
			DMSO - Toxicity Data: Oral LD50 (rat):	14,500 mg/kg;	Skin LD50 (ra	at): 40,000 mg/	/kg; Oral LD50		
			(mouse): 7,920 mg/kg; Skin LD50 (mou		∥/kg; Skin TDI	LO (woman): 1	,800 mg/kg;		
			Inhalation LC50 (rat): >1,600 mg/m3 (4	, ·					
			DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;						
		Toxicological	Cyclosporin A - Investigated as a carcinogen, mutagen, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.						
	Effects:								
			See actual entry in RTECS for complete information.						
			Cyclosporin A RTECS Number: GZ4120000						
	Caraina	nonicity/Other	DMSO RTECS Number: PV6210000 IARC: 1 - Group 1: Carcinogenic to humans (Cyclosporin A) California Prop. 65 carcinogen. (Cyclosporin A) NTP: Known to be a human carcinogen (Cyclosporin A)						
	Informat	genicity/Other							
	morma								
Carci	nogenicity	<i>r</i> .	NTP? Yes IARC Monographs? Yes		gulated? No				
CAS		1	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
	# 65-13-3		ponents (Chemical Name)	Known					
		Cyclosporin A		-		n.a.	n.a.		
67	·-68-5	Dimethyl sulfoxide		n.a.	n.a.	n.a.	n.a.		
			Section 12. Ecological	Informati	on				
12.1	Toxicity	:	Avoid release into the environment.						
			Runoff from fire control or dilution water may cause pollution.						
12.2	Persiste		No data available.						
	Degrada	-							
12.3		mulative	No data available.						
	Potentia	1:							
12.4	Mobility	in Soil:	No data available.						
12.5	Results	of PBT and vPvB	No data available.						

12.6 Other adverse effects: No data available.

assessment:



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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 59865-13-3 Cyclosporin A No No No No 67-68-5 Dimethyl sulfoxide, anhydrous Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 Statement: No.1272/2008.	Section 14. Transport Information Section 14. Transport Information RT (US DOT): g Name: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. (ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Numendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S and RQ suifoxide, anhydrous No	.cynan				Supe	ersedes Revision: 04/27/2015
Section 14. Transport Information Section 14. Transport Information 14.1 LAND TRANSPORT (US DOT): DOT Proper Shipping Name: Not dangerous goods. DOT Hazard Class: UN/NA Number: Hazard Class: UN/NA Number: Hazard Class: 14.1 LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: Not dangerous goods. UN Number: Hazard Class: 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 regula Information: Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 302 (EHS) S. 302	Section 14. Transport Information RT (US DOT): g Name: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. (ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No No us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No us Components (Chemical Name) Other US EPA or State Lists rin A CAA HAP.ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP.ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No: 1272/2008.			Section 13. Dispo	sal Considera	ations	
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): ADR/RID Shipping Name: Not dangerous goods. 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 regula Information: Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists S. 302 (EHS) S. 304 CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 System CAA HAP,ODC: No; CW/A PROP.65: Yes 67-68-5 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/A PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/A PROP.65: Yes <td>RT (US DOT): g Name: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. ame: Not dangerous goods. f(ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No No No No sulfoxide, anhydrous No No No No No us Components (Chemical Name) Other US EPA or State Lists CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes Sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information Section 16. Other Information 11/13/2015</td> <td>3.1 Waste I</td> <td>Disposal Method:</td> <td>Dispose in accordance with loc</td> <td>cal, state, and federa</td> <td>l regulations.</td> <td></td>	RT (US DOT): g Name: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. ame: Not dangerous goods. f(ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No No No No sulfoxide, anhydrous No No No No No us Components (Chemical Name) Other US EPA or State Lists CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes Sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information Section 16. Other Information 11/13/2015	3.1 Waste I	Disposal Method:	Dispose in accordance with loc	cal, state, and federa	l regulations.	
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): ADR/RID Shipping Name: Not dangerous goods. 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 regula Information: Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists S. 302 (EHS) S. 304 CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 System CAA HAP,ODC: No; CW/A PROP.65: Yes 67-68-5 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/A PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/A PROP.65: Yes <td>RT (US DOT): g Name: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. ame: Not dangerous goods. f(ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No No No No sulfoxide, anhydrous No No No No No us Components (Chemical Name) Other US EPA or State Lists CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes Sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information Section 16. Other Information 11/13/2015</td> <td></td> <td></td> <td>Section 14. Trar</td> <td>nsport Informa</td> <td>ation</td> <td></td>	RT (US DOT): g Name: Not dangerous goods. RT (European ADR/RID): ame: Not dangerous goods. ame: Not dangerous goods. f(ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No No No No sulfoxide, anhydrous No No No No No us Components (Chemical Name) Other US EPA or State Lists CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes Sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information Section 16. Other Information 11/13/2015			Section 14. Trar	nsport Informa	ation	
DOT Hazard Class: UN/NA Number: 14.1 LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: Not dangerous goods. 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 regula nformation: EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/ PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/ Inventory; CA PROP.65: 1 Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 Statement: No.1272/2008.	RT (European ADR/RID): ame: Not dangerous goods. r(ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Section 15. Regulatory Information Mmendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rin A No No sulfoxide, anhydrous Other US EPA or State Lists trin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information 11/13/2015	I4.1 LAND	RANSPORT (US		•		
UN/NA Number: I4.1 LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: Not dangerous goods. UN Number: Hazard Class: I4.3 AIR TRANSPORT (ICAO/IATA): ICAO/IATA Shipping Name: Not dangerous goods. Additional Transport Transport in accordance with local, state, and federal regula nformation: EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CW/ PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/ PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/ Inventory; CA PROP.65: 1 Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 Statement: No.1272/2008.	ame: Not dangerous goods. (ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) rrin A No No No No sulfoxide, anhydrous No No No No us Components (Chemical Name) Other US EPA or State Lists rrin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information 11/13/2015	DOT Prope	er Shipping Name	: Not dangerous goods.			
14.1 LAND TRANSPORT (European ADR/RID): ADR/RID Shipping Name: Not dangerous goods. 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 Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CW/ PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/ Inventory; CA PROP.65: 1 Segulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 No. 1272/2008. Section 16. Other Information	ame: Not dangerous goods. (ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) min A No No No No sulfoxide, anhydrous No No No No us Components (Chemical Name) Other US EPA or State Lists wrin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information 11/13/2015						
ADR/RID Shipping Name: Not dangerous goods. 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 Additional Transport Transport in accordance with local, state, and federal regulations EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA F9865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA <	ame: Not dangerous goods. (ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) min A No No No No sulfoxide, anhydrous No No No No us Components (Chemical Name) Other US EPA or State Lists wrin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information 11/13/2015	UN/NA Nu	mber:				
UN Number: Hazard Class: 4.3 AIR TRANSPORT (ICAO/IATA): ICAO/IATA Shipping Name: Not dangerous goods. Additional Transport Transport in accordance with local, state, and federal regula information: EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA Inventor; CA PROP.65: I tegulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 No.1272/2008.	(ICAO/IATA): Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Mmendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) nrin A Suffoxide, anhydrous Other US EPA or State Lists rrin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information 11/13/2015	4.1 LAND	FRANSPORT (Eur	opean ADR/RID):			
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 regulation Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 59865-13-3 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 Statement: No.1272/2008. Section 16. Other Information	Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) Internation virin A No No No sulfoxide, anhydrous Other US EPA or State Lists us Components (Chemical Name) Other US EPA or State Lists us Components (Chemical Name) Other US EPA or State Lists us Components (Chemical Name) Other US EPA or State Lists This SDS No; TSCA: No; CA urin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. No.1272/2008. Section 16. Other Information 11/13/2015			Not dangerous goods.			
14.3 AIR TRANSPORT (ICAO/IATA): ICAO/IATA Shipping Name: Not dangerous goods. Additional Transport Transport in accordance with local, state, and federal regular formation: Section 15. Regulatory Information EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists CAS # Hazardous Components (Chemical Name) S. 302 (EHS) S. 304 59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CW/ PROP.65: Yes CAA HAP,ODC: No; CW/ PROP.65: Yes 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CW/ Inventory; CA PROP.65: I No.1272/2008. This SDS was prepared in accordance with 29 CFR 1910.12 Statement: Section 16. Other Information	Name: Not dangerous goods. Transport in accordance with local, state, and federal regulations. Section 15. Regulatory Information Amendments and Reauthorization Act of 1986) Lists us Components (Chemical Name) S. 302 (EHS) S. 304 RQ S. 313 (TRI) Internation virin A No No No sulfoxide, anhydrous Other US EPA or State Lists us Components (Chemical Name) Other US EPA or State Lists us Components (Chemical Name) Other US EPA or State Lists us Components (Chemical Name) Other US EPA or State Lists This SDS No; TSCA: No; CA urin A CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. No.1272/2008. Section 16. Other Information 11/13/2015						
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59865-13-3 Cyclosporin A No No 67-68-5 Dimethyl sulfoxide, anhydrous No No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 Statement: No.1272/2008.	vrin A No No No sulfoxide, anhydrous No No No us Components (Chemical Name) Other US EPA or State Lists No us Components (Chemical Name) Other US EPA or State Lists CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yes sulfoxide, anhydrous CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008. Section 16. Other Information 11/13/2015 Section 16. Other Information	EPA SARA (Si	uperfund Amendr		•		
67-68-5 Dimethyl sulfoxide, anhydrous No No CAS # Hazardous Components (Chemical Name) Other US EPA or State Li 59865-13-3 Cyclosporin A CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA 67-68-5 Dimethyl sulfoxide, anhydrous CAA HAP,ODC: No; CWA Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.12 Statement: No.1272/2008.	sulfoxide, anhydrousNoNous Components (Chemical Name)Other US EPA or State Listsorin ACAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: Yessulfoxide, anhydrousCAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: NoThis SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.Section 16. Other Information11/13/2015	CAS #	Hazardous Com	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
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Statement: No.1272/2008. Section 16. Other Information	No.1272/2008. Section 16. Other Information 11/13/2015	67-68-5	Dimethyl sulfoxic	de, anhydrous		•	: No; TSCA: Yes -
Section 16. Other Information	Section 16. Other Information	Regulatory Inf	ormation	This SDS was prepared in acc	ordance with 29 CFF	R 1910.1200 and R	egulation (EC)
	11/13/2015	Statement:		No.1272/2008.			
14/40/0045				Section 16. Ot	her Information	on	
Revision Date: 11/13/2015	bout No data available.	Revision Date:		11/13/2015			
Additional Information About No data available.		dditional Info	rmation About	No data available.			
his Product:		his Product:					
		Company Polic	cy or Disclaimer:				
	ourrently available to us. However, we make no werrently of march antability or any other second						
express of implied, with respect to such information, and we							
use. Users should make their own investigations to determin	express or implied, with respect to such information, and we assume no liability resulting from its						
	currently available to us. nowever, we make no warranty of merchantability of any other warrant			-		-	
				use. Users should make their	own investigations to	determine the suit	ability of the information for
-	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.			
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-	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						
-	currently available to us. However, we make no warranty of merchantability or any other warranty express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.						



Revision: 11/13/2015

	accord	ding to Regulation (EC) No. 1907/2006 as amended by	(EC) No. 1272/2008	
	Section 1. Ide	entification of the Substance/Mixture and of the	he Company/Undertaking	
1	Product Code: Product Name:	600372 Cell-Based Assay Verapamil		
2 Relevant identified uses of the substance or mixture and uses advised against:				
	Relevant identified uses:	For research use only, not for human or vetering	nary use.	
3	Details of the Supplier of the	e Safety Data Sheet:		
	Company Name:	Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108		
	Web site address:	www.caymanchem.com		
	Information:	Cayman Chemical Company	+1 (734)971-3335	
4	Emergency telephone numb	per:		
	Emergency Contact:	CHEMTREC Within USA and Canada: CHEMTREC Outside USA and Canada:	+1 (800)424-9300 +1 (703)527-3887	
		Section 2. Hazards Identific	ation	
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, (Serious Eye Damage/Eye	gory 4 Category 2		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, (gory 4 Category 2		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements:	gory 4 Category 2 Irritation, Category 2A		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, (Serious Eye Damage/Eye	gory 4 Category 2		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, G Serious Eye Damage/Eye Label Elements:	gory 4 Category 2 Irritation, Category 2A		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, G Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed.	gory 4 Category 2 Irritation, Category 2A Danger		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation	gory 4 Category 2 Irritation, Category 2A Danger		
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2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, G Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled.	gory 4 Category 2 Irritation, Category 2A Danger		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled. GHS Precaution Phrases:	gory 4 Category 2 Irritation, Category 2A Danger	1	
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2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, G Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled. GHS Precaution Phrases: P210: Keep away from {heat	gory 4 Category 2 Irritation, Category 2A Danger Danger	Э.	
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled. GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dust P264: Wash {hands} thorous	gory 4 Category 2 Irritation, Category 2A Danger Danger		
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled. GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dust P264: Wash {hands} thorous	gory 4 Category 2 Irritation, Category 2A Danger Danger		
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2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled. GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dust P264: Wash {hands} thorous P280: Wear {protective glow GHS Response Phrases: P301+312: IF SWALLOWED	gory 4 Category 2 Irritation, Category 2A Danger Danger	ion}. [:] you feel unwell.	
2	Acute Toxicity: Oral, Cate Skin Corrosion/Irritation, O Serious Eye Damage/Eye Label Elements: GHS Signal Word: GHS Hazard Phrases: H227: Combustible liquid. H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes serious eye i H331: Toxic if inhaled. GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dust P264: Wash {hands} thorous P280: Wear {protective glow GHS Response Phrases: P301+312: IF SWALLOWED P302+352: IF ON SKIN: Wa P304+340: IF INHALED: Res	gory 4 Category 2 Irritation, Category 2A Danger Danger	ion}. you feel unwell. ition comfortable for breathing.	



Revision: 11/13/2015 Supersedes Revision: 04/27/2015

P311: Call a POISON CENTER or doctor/physician. P321: Specific treatment {see ... on this label}. P330: Rinse mouth. P332+313: If skin irritation occurs, get medical advice/attention. P337+313: If eye irritation persists, get medical advice/attention. P362+364: Take off contaminated clothing and wash it before reuse. **GHS Storage and Disposal Phrases:** Please refer to Section 7 for Storage and Section 13 for Disposal information. 2.3 **Adverse Human Health** Causes skin and serious eye irritation. DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body. **Effects and Symptoms:** DMSO is readily absorbed through skin. Harmful if swallowed. Material may be irritating to the mucous membranes and upper respiratory tract. May be harmful by skin absorption. May cause respiratory system irritation.

Toxic if inhaled.

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.	GHS Classification
152-11-4 YV8320000	Verapamil hydrochloride	10.0 %	205-800-5 NA	Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Acute Tox.(I) 2: H330
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous	90.0 %	200-664-3 NA	Flam. Liq. 4: H227 Eye Damage 2A: H319 Skin Corr. 2: H315

Section 4. First Aid Measures

4.1 Description of First Aid

Measures: In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention. In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse. In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel. In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel. 4.2 Important Symptoms and Exposure may cause: hematuria or shortness of breath (dyspnea). Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, Effects, Both Acute and dizziness, and drowsiness. **Delayed:** Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.



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			Section	Fire Fighting	Measures		
5.1	Suitable	e Extinguishing	Use alcohol-resist	ant foam, carbon dioxide	e, water, or dry chemical sp	ray.	
	Media:		Use water spray to	o cool fire-exposed conta	ainers.		
	Unsuita	ıble Extinguishiı	ng A solid water strea	m may be inefficient.			
	Media:						
5.2	Flamma	able Properties a	andCan release vapor	s that form explosive mi	xtures at temperatures at o	r above the flashpoint.	
	Hazards	5:	•	on may occur under fire	conditions.		
				under fire conditions.			
			Sensitive to static	discharge.			
			No data available.				
	Flash P			Used: Closed Cup			
	-	ve Limits:		at 25.0 C UEL:	42.0% at 25.0 C		
	-	nition Pt:	215.00 C				
5.3	Fire Fig	hting Instructio	•		ng apparatus pressure-dem		
					vent contact with skin and e	yes.	
<u> </u>				as diluted in dimethyl s	ulloxide		
			Section 6. A	Accidental Relea	ase Measures		
6.1		ive Precautions,	-	apors and provide adequ			
	Protect	ive Equipment a				ning apparatus, or respirator,	
	Emerge	ency Procedures	and appropriate p	ersonal protection (rubb	er boots, safety goggles, ar	nd heavy rubber gloves).	
6.2	Environ	mental	Take steps to avo	id release into the enviro	onment, if safe to do so.		
	Precaut						
6.3				collect, as appropriate.			
		ment and Clean	ing I ransfer to a cher	nical waste container for	r disposal in accordance wit	th local regulations.	
	Up:						
			Section	7. Handling an	d Storage		
7.1	Precaut	tions To Be Take	en Avoid breathing du	ust/fume/gas/mist/vapou	rs/spray.		
	in Hand	lling:	Avoid prolonged o	r repeated exposure.			
			Keep away from s	-			
			•	y measures against stat	ic discharge.		
7.2				eat, sparks and flame.			
	in Stori	ng:	Keep container tightly closed. Store in accordance with information listed on the product insert.				
	Other B	recautions:	Hygroscopic.		i on the product insert.		
	Other P	recautions:	Light sensitive.				
<u> </u>			-				
		Se	ction 8. Expo	sure Controls/P	ersonal Protectior	า	
8.1	Exposu	re Parameters:					
CAS	#	Partial Chemic	al Name	Britain EH40	France VL	Europe	
152	2-11-4	Verapamil hydro	ochloride	No data.	No data.	No data.	
	-68-5	Dimethyl sulfoxi	de, anhydrous	No data.	No data.	No data.	
67							
67							
67		•					
CAS	# 2-11-4	re Parameters: Partial Chemic Verapamil hydro	al Name	Britain EH40 No data.	France VL No data.	Europe No data.	



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CAS	#	Partial Chemica	I Name	OSHA TWA	ACGIH TWA	Other Limits
152	2-11-4	Verapamil hydrod	chloride	No data.	No data.	No data.
67	-68-5	Dimethyl sulfoxid		No data.	No data.	No data.
.2	Exposu	ire Controls:		ł	ŀ	
.2.1	Engine	ering Controls	Use process encl	losures, local exhaust vent	tilation, or other engineering co	ontrols to control airbo
	(Ventila	ation etc.):	levels below reco	mmended exposure limits.		
.2.2	Persor	nal protection equ	ipment:			
	Eye Pr	otection:	Safety glasses			
	Protect	tive Gloves:	Compatible chem	nical-resistant gloves		
	Other F	Protective Clothin	g: Lab coat			
	Respira	atory Equipment	NIOSH approved	respirator, as conditions w	varrant.	
	(Specif	fy Type):				
	Work/H	lygienic/Maintena	n Do not take interr	nally.		
	ce Prac	ctices:	Facilities storing	or utilizing this material sho	ould be equipped with an eyev	vash facility and a safe
			shower.			
			Wash thoroughly	-		
			No data available	2.		
		S	Section 9. Ph	nysical and Chem	nical Properties	
9.1	Informa	ation on Basic Phy	sical and Chemic	al Properties		
	Physic	al States:	[]Gas	[X]Liquid []Solid	1	
	Appear	rance and Odor:	Solution			
	Melting	g Point:	No data.			
	Boiling	g Point:	No data.			
	Flash F	Pt:	89.00 C	Method Used: Closed C	up	
	Evapor	ration Rate:	No data.			
	Flamm	ability (solid, gas)	: No data a	vailable.		
	Explos	ive Limits:	LEL: 3.5	5% at 25.0 C U	JEL: 42.0% at 25.0 C	
	Vapor	Pressure (vs. Air o	or mm 0.37 MM	1_HG at 20.0 C		
	Hg):					
	-	Density (vs. Air =	-			
	-	ic Gravity (Water =	•			
	Solubil	lity in Water:	No data.			
	Autoig	nition Pt:	215.00 C			
9.2	Other In	nformation				
	Percen	t Volatile:	No data.			
			Section	10. Stability and	Reactivity	
0.1	Reactiv	vity:	No data available	-	-	
10.2	Stabilit	-	Unstable []	Stable [X]		
10.3	Stabilit	ty Note(s):	Stable if stored in	accordance with informati	ion listed on the product inser	t.
	Polyme	erization:	Will occur []	Will not occur [X]		
0.4	Condit	ions To Avoid:	heat, flames and	sparks		
0.5		oatibility - Materia				
	To Avo	-	phosphorus halid	es		
			strong acids			
			alkali metals			
						Multi-region for



			strong oxidizing agents						
0.0	114 1		strong reducing agents						
0.6	Hazardo		carbon monoxide						
	-	osition or	carbon dioxide						
	Byprodu	icts:	sulfur oxides						
			Section 11. Toxicologica	al Informa	tion				
.			The toxicological effects of this product		0.1				
	Toxicolo	gical Effects:	DMSO - Toxicity Data: Oral LD50 (rat):	0.01					
			(mouse): 7,920 mg/kg; Skin LD50 (mou		j/kg; Skin TDL	O (woman): 1,	800 mg/kg;		
			Inhalation LC50 (rat): >1,600 mg/m3 (4 DMSO - Irritation Data: Eyes (rabbit): 10	-	in (rabbit): EOC	ma (24h) mil	4.		
			Verapamil hydrochloride - Toxicity Data: Oral TDLO (man): 26 mg/kg; Oral TDLO (woman): 14.4 mg/kg; Oral LD50 (mouse): 163 mg/kg; Oral LD50 (rat): 150 mg/kg.						
	Chronic	Toxicological	DMSO - Investigated as a mutagen, rep			rigen			
	Effects:	lexicological	Verapamil hydrochloride - Investigated			•			
	Encoto.		Only select Registry of Toxic Effects of	-	-		sented here.		
			See actual entry in RTECS for complete			, i			
			DMSO RTECS Number: PV6210000						
			Verapamil hydrochloride RTECS Numb	er: YV8320000)				
Carcir	nogenicity	/:	NTP? No IARC Monographs? No	OSHA Re	gulated? No				
CAS #	#	Hazardous Com	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
152	2-11-4	Verapamil hydroc	chloride	n.a.	n.a.	n.a.	n.a.		
67.	-68-5	Dimethyl sulfoxide	e, anhydrous	n.a.	n.a.	n.a.	n.a.		
			Section 12. Ecological	Informati	on				
2.1	1 Toxicity:		Avoid release into the environment.						
			Runoff from fire control or dilution water may cause pollution.						
2.2	Persiste	nce and	No data available.						
	Degrada	bility:							
	Bioaccu	-							
2.3		mulative	No data available.						
2.3	Potentia	mulative I:	No data available.						
2.3 2.4	Potentia	l:	No data available. No data available.						
12.4	Potentia Mobility	l: in Soil:	No data available.						
2.4	Potentia Mobility Results	l: in Soil: of PBT and vPvB							
2.4 2.5	Potentia Mobility Results assessm	l: in Soil: of PBT and vPvB	No data available.						
2.4 2.5	Potentia Mobility Results assessm	l: in Soil: of PBT and vPvB nent:	No data available. No data available. No data available.	nsiderati	ons				
2.4 2.5 2.6	Potentia Mobility Results assessm Other ad	l: in Soil: of PBT and vPvB nent: Iverse effects:	No data available. No data available. No data available. Section 13. Disposal Co						
2.3 2.4 2.5 2.6	Potentia Mobility Results assessm Other ad	l: in Soil: of PBT and vPvB nent: Iverse effects:	No data available. No data available. No data available.						



Multi-region format

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CHIMICAL				Supe	rsedes Revision: 04/27/2015
		Section 14. Tran	sport Informat	tion	
14.1 LAND 1	FRANSPORT (US E	DOT):			
DOT Prope	er Shipping Name:	Toxic liquid, organic, n.o.s.	(Verapamil hydrochlo	oride)	
DOT Hazar	rd Class:	6.1 POISON			
UN/NA Nui	mber:	2810	Packing Grou	ıp:	III
		POISON 6			
14.1 LAND 1	FRANSPORT (Euro	ppean ADR/RID):			
ADR/RID S	Shipping Name:	Toxic solids, organic, n.o.s.	. (Verapamil hydrochle	oride)	
UN Numbe	er:	2810	Packing Grou	ıp:	III
Hazard Cla	ass:	6.1 - POISON			
14.3 AIR TR	ANSPORT (ICAO/I	ATA):			
ICAO/IATA	A Shipping Name:	Toxic solids, organic, n.o.s.		,	
UN Numbe		2810	Packing Grou	-	III
Hazard Cla		6.1 - POISON	IATA Classifi		6.1
Additional Tra	insport	Transport in accordance with lo	ocal, state, and federa	l regulations.	
		Section 15. Regu	latory Informa	tion	
EPA SARA (Sı	uperfund Amendm	ents and Reauthorization Act	of 1986) Lists		
CAS #	Hazardous Com	conents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
152-11-4	Verapamil hydroc	hloride	No	No	No
67-68-5	Dimethyl sulfoxide	e, anhydrous	No	No	No
CAS #	Hazardous Com	oonents (Chemical Name)	Other US EPA or S	State Lists	
152-11-4	Verapamil hydroc	hloride	CAA HAP,ODC: N PROP.65: No	o; CWA NPDES:	No; TSCA: No; CA
67-68-5	Dimethyl sulfoxide	e, anhydrous	CAA HAP,ODC: N Inventory; CA PR		No; TSCA: Yes -
Regulatory Info	ormation	This SDS was prepared in acco No.1272/2008.	ordance with 29 CFR	1910.1200 and Re	egulation (EC)
		Section 16. Otl	ner Informatio	n	
Revision Date:		11/13/2015			
Additional Info This Product:	ormation About	No data available.			
≎ompany Polic	cy or Disclaimer:	DISCLAIMER: This information currently available to us. However express or implied, with respect use. Users should make their of their particular purposes.	ver, we make no warra t to such information,	anty of merchanta and we assume n	bility or any other warranty o liability resulting from its



	man	Cell-Based Assay Buffer T	Revision: 11/13/201 Supersedes Revision: 01/22/201		
	accord	ing to Regulation (EC) No. 1907/2006 as amended by (E			
		ntification of the Substance/Mixture and of the			
1	Product Code:				
-	Product Name:	Cell-Based Assay Buffer Tablet			
2	Relevant identified uses of the	ne substance or mixture and uses advised aga	inst:		
	Relevant identified uses:	For research use only, not for human or vetering	ary use.		
3	Details of the Supplier of the	Safety Data Sheet:			
	Company Name:	Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108			
	Web site address:	www.caymanchem.com			
	Information:	Cayman Chemical Company	+1 (734)971-3335		
4	Emergency telephone number	er:			
	Emergency Contact:	CHEMTREC Within USA and Canada:	+1 (800)424-9300		
		CHEMTREC Outside USA and Canada:	+1 (703)527-3887		
	GHS Signal Word:	Warning			
	GHS Hazard Phrases:				
	H303: May be harmful if swa H313: May be harmful in cor				
	H319: Causes serious eye ir				
	GHS Precaution Phrases:				
	P264: Wash {hands} thoroug				
	P280: Wear {protective glove	hly after handling.			
	GHS Response Phrases:	hly after handling. es/protective clothing/eye protection/face protectio	n}.		
	P312: Call a {POISON CEN	-	on}.		
		es/protective clothing/eye protection/face protection			
		es/protective clothing/eye protection/face protectio			
	to do. Continue rinsing.	es/protective clothing/eye protection/face protection FER/doctor/} if you feel unwell.			
	to do. Continue rinsing. P337+313: If eye irritation pe	Es/protective clothing/eye protection/face protection FER/doctor/} if you feel unwell. Rinse cautiously with water for several minutes. I Prsists, get medical advice/attention.			
	to do. Continue rinsing. P337+313: If eye irritation pe GHS Storage and Disposal	Es/protective clothing/eye protection/face protection FER/doctor/} if you feel unwell. Rinse cautiously with water for several minutes. I Prsists, get medical advice/attention.			
	to do. Continue rinsing. P337+313: If eye irritation pe GHS Storage and Disposal	Protective clothing/eye protection/face protection FER/doctor/} if you feel unwell. Rinse cautiously with water for several minutes. I Prsists, get medical advice/attention. Phrases:			
	to do. Continue rinsing. P337+313: If eye irritation pe GHS Storage and Disposal	Protective clothing/eye protection/face protection FER/doctor/} if you feel unwell. Rinse cautiously with water for several minutes. I Prsists, get medical advice/attention. Phrases:			



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2.3 Adverse Human Health Cau Effects and Symptoms: Mat

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 skin or 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.	GHS Classification
7558-79-4 NC4500000	Sodium phosphate, Dibasic	> 1.0 %	231-448-7 NA	Eye Damage 2: H319
7647-14-5 VZ4725000	Sodium chloride	> 1.0 %	231-598-3 NA	Eye Damage 2A: H319
7778-77-0 TC6615500	Potassium phosphate, Monobasic	> 1.0 %	231-913-4 NA	Skin Corr. 1B: H314 Eye Damage 1: H318
7447-40-7 TS8050000	Potassium chloride	> 1.0 %	231-211-8 NA	Acute Tox.(O) 4: H302

4.1	Description of First Aid	
	Measures:	
	In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
	In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
	In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
	In Case of Ingestion:	Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
4.2	Important Symptoms and	Exposure may cause: Hyperkalaemia, nausea, vomiting, abdominal pain, diarrhea or constipation,
	Effects, Both Acute and	paraesthesia, thirst, dizziness, skin rash, pruritus, weakness, muscle cramps, and minor psychiatric
	Delayed:	or visual changes.
		Section 5. Fire Fighting Measures
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
	Media:	Use water spray to cool fire-exposed containers.
	Unsuitable Extinguishing	A solid water stream may be inefficient.
	Media:	
5.2	Flammable Properties an	dNo data available.
	Hazards:	
		No data available.
	Flash Pt:	No data.
	Explosive Limits:	LEL: No data. UEL: No data.
	Autoignition Pt:	No data.
5.3	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.



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mergency Procedures: nvironmental recautions: ethods and Material For- ontainment and Cleani p: recautions To Be Taken Handling: recautions To Be Taken Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride	Avoid raising and As conditions war and appropriate p Take steps to avo or Contain spill and on mgTransfer to a cher <u>Section</u> Avoid breathing du Avoid breathing du Avoid prolonged o n Keep container tig Store in accordance Hygroscopic.	ersonal protection (rubber nid release into the environ collect, as appropriate. mical waste container for c 7. Handling and ust/fume/gas/mist/vapours r repeated exposure. htly closed. ce with information listed c	de adequate ventilation. oved self-contained breathing boots, safety goggles, and h ment, if safe to do so. disposal in accordance with lo <u>Storage</u> /spray.	eavy rubber gloves).
rotective Equipment an mergency Procedures: nvironmental recautions: ethods and Material For ontainment and Cleani p: recautions To Be Taken Handling: recautions To Be Taken Storing: ther Precautions: Secon posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	nd As conditions war and appropriate p Take steps to avo or Contain spill and on ng Transfer to a cher <u>Section</u> n Avoid breathing du Avoid prolonged o n Keep container tig Store in accordance Hygroscopic.	rant, wear a NIOSH appro- ersonal protection (rubber id release into the environ collect, as appropriate. mical waste container for o 7. Handling and ust/fume/gas/mist/vapours r repeated exposure. htly closed. ce with information listed o sure Controls/Pe Britain EH40	boved self-contained breathing boots, safety goggles, and h ment, if safe to do so. disposal in accordance with lo <u>Storage</u> /spray. on the product insert. <u>rsonal Protection</u> <u>France VL</u>	eavy rubber gloves).
mergency Procedures: nvironmental recautions: ethods and Material For- ontainment and Cleaning: recautions To Be Taken Handling: recautions To Be Taken Storing: ther Precautions: Secons posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	and appropriate p Take steps to avo or Contain spill and o ngTransfer to a cher <u>Section</u> n Avoid breathing du Avoid prolonged o n Keep container tig Store in accordance Hygroscopic.	ersonal protection (rubber nid release into the environ collect, as appropriate. mical waste container for o 7. Handling and ust/fume/gas/mist/vapours r repeated exposure. htly closed. ce with information listed o sure Controls/Pe Britain EH40	boots, safety goggles, and h ment, if safe to do so. disposal in accordance with lo <u>Storage</u> /spray. on the product insert. <u>rsonal Protection</u> <u>France VL</u>	eavy rubber gloves).
nvironmental recautions: ethods and Material For ontainment and Cleani p: recautions To Be Taken Handling: recautions To Be Taken Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	Take steps to avo or Contain spill and on ngTransfer to a cher Section n Avoid breathing du Avoid prolonged on n Keep container tig Store in accordance Hygroscopic.	id release into the environ collect, as appropriate. mical waste container for o 7. Handling and ust/fume/gas/mist/vapours r repeated exposure. htly closed. ce with information listed o sure Controls/Pe Britain EH40	iment, if safe to do so. disposal in accordance with lo <u>Storage</u> /spray. on the product insert. rsonal Protection France VL	Europe
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recautions To Be Taker Handling: recautions To Be Taker Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	ngTransfer to a cher Section n Avoid breathing du Avoid prolonged o n Keep container tig Store in accordance Hygroscopic. Stion 8. Expos	T. Handling and J. Handling and J. J. Handling and J. J. J	Storage /spray. on the product insert. rsonal Protection France VL	Europe
p: recautions To Be Taken Handling: recautions To Be Taken Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	Section n Avoid breathing du Avoid prolonged o n Keep container tig Store in accordance Hygroscopic. Stion 8. Exposed I Name	7. Handling and ust/fume/gas/mist/vapours r repeated exposure. htly closed. ce with information listed of sure Controls/Pe	Storage /spray. on the product insert. rsonal Protection France VL	Europe
recautions To Be Taker Handling: recautions To Be Taker Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	n Avoid breathing du Avoid prolonged o n Keep container tig Store in accordanc Hygroscopic. Stion 8. Expos	ust/fume/gas/mist/vapours r repeated exposure. htly closed. ce with information listed c sure Controls/Pe Britain EH40	/spray. on the product insert. rsonal Protection France VL	
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Handling: recautions To Be Taker Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	Avoid prolonged o n Keep container tig Store in accordance Hygroscopic. Stion 8. Expose I Name	r repeated exposure. htly closed. ce with information listed c sure Controls/Pe Britain EH40	on the product insert. rsonal Protection France VL	
recautions To Be Taken Storing: ther Precautions: Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	n Keep container tig Store in accordance Hygroscopic. Stion 8. Expose I Name	htly closed. ce with information listed c sure Controls/Pe Britain EH40	rsonal Protection France VL	
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Sec posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	tion 8. Expos	Britain EH40	France VL	
Posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	l Name	Britain EH40	France VL	
Posure Parameters: Partial Chemica 9-4 Sodium phospha 4-5 Sodium chloride 7-0 Potassium phosp	l Name	Britain EH40	France VL	
9-4Sodium phospha4-5Sodium chloride7-0Potassium phosp				
4-5 Sodium chloride 7-0 Potassium phosp	te, Dibasic	No data.	No data.	
7-0 Potassium phosp				No data.
		No data.	No data. No data. No data. ACGIH TWA No data. No data. No data.	No data.
	ohate, Monobasic	No data.		No data.
	de	No data. OSHA TWA No data. No data. No data.		No data.
Partial Chemica	l Name			Other Limits
9-4 Sodium phospha	te, Dibasic			No data.
4-5 Sodium chloride				No data.
7-0 Potassium phosp	ohate, Monobasic	No data.	No data.	No data.
0-7 Potassium chlori	de	No data.	No data.	No data.
posure Controls:			ł	
ngineering Controls	Use process enclo	osures, local exhaust venti	lation, or other engineering co	ontrols to control airborn
entilation etc.):	levels below recon	nmended exposure limits.		
ersonal protection equ	ipment:			
ye Protection:	Safety glasses			
rotective Gloves:	-	cal-resistant gloves		
	-			
	NIOSH approved r	respirator, as conditions w	arrant.	
	n Do not tako intorna	ally		
		-	uld be equipped with an ever	vash facility and a safet
	shower.			
	Wash thoroughly a	after handling.		
	No data available.			
	I-5 Sodium chloride 7-0 Potassium phosp 0-7 Potassium chlori posure Controls: gineering Controls entilation etc.): rsonal protection equ e Protection: otective Gloves: her Protective Clothin spiratory Equipment pecify Type):	I-5 Sodium chloride -0 Potassium phosphate, Monobasic -7 Potassium chloride 	I-5 Sodium chloride No data. I-5 Sodium chloride No data. I-7 Potassium chloride No data. I-7 Iterstription Use process enclosures, local exhaust ventilizer I-7 Iterstription Iterstription I-7 Protection equipment: Eachery glasses I-7 Protective Clothing: Lab coat Iterstription I-7 Protices:	I-5 Sodium chloride No data. No data. I-7 Potassium phosphate, Monobasic No data. No data. I-7 Potassium chloride No data. No data. I-7 Iseprocess enclosures, local exhaust ventilation, or other engineering comparison of the engineer



SAFETY DATA SHEET **Cell-Based Assay Buffer Tablet**

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	CHEMICAL	Supersedes Revision: 01/22/2015				
	S	Section 9. Physical and Chemical Properties				
9.1	Information on Basic Physical and Chemical Properties					
	Physical States:	[]Gas []Liquid [X]Solid				
	Appearance and Odor:	tablet(s)				
	Melting Point:	No data.				
	Boiling Point:	No data.				
	Flash Pt:	No data.				
	Evaporation Rate:	No data.				
	Flammability (solid, gas)	: No data available.				
	Explosive Limits:	LEL: No data. UEL: No data.				
	Vapor Pressure (vs. Air o	or mm No data.				
	Hg):					
	Vapor Density (vs. Air =	1): No data.				
	Specific Gravity (Water =	= 1): No data.				
	Solubility in Water:	No data.				
	Autoignition Pt:	No data.				
9.2	Other Information					
9.2						
	Percent Volatile:	No data.				
		Section 10. Stability and Reactivity				
10.1	Reactivity:	No data available.				
10.2	Stability:	Unstable [] Stable [X]				
10.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.				
	Polymerization:	Will occur [] Will not occur [X]				
10.4	Conditions To Avoid:	No data available.				
10.5	Incompatibility - Materia	Is strong acids				
	To Avoid:	strong oxidizing agents				
10.6	Hazardous	hydrogen chloride gas				
	Decomposition or	phosphorus oxides				
	Byproducts:	potassium oxides				
		sodium oxides				
		Section 11. Toxicological Information				
11.1	Information on	The toxicological effects of this product have not been thoroughly studied.				
	Toxicological Effects:	Potassium chloride - Toxicity Data: Oral LD50 (rat): 2,600 mg/kg;				
	Toxicological Effects.	Potassium chloride - Irritation Data: Eyes (rabbit): 500 mg (24h) mild;				
		Potassium phosphate, Monobasic - Toxicity Data: Skin LD50 (rabbit): >4,640 mg/kg;				
		Sodium chloride - Toxicity Data: Oral LD50 (rat): 3,000 mg/kg; Oral LD50 (mouse): 4,000 mg/kg;				
		Sodium chloride - Irritation Data: Eyes (rabbit): 100 mg (24h) moderate; Skin (rabbit): 500 mg (24h)				
		mild;				
		Sodium phosphate, Dibasic - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 500 m				
		(24h) mild;				
	Chronic Toxicological	Potassium chloride - Investigated as a mutagen and tumorigen.				
	Effects:	Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.				
		See actual entry in RTECS for complete information.				
		Potassium chloride RTECS Number: TS8050000				
		Potassium phosphate, Monobasic RTECS Number: TC6615500				
		Sodium chloride RTECS Number: VZ4725000				
		Multi-region forma				



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CAS #	ŧ	Hazardous Com	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
7558	8-79-4	Sodium phospha	te, Dibasic	n.a.	n.a.	n.a.	n.a.		
7647	7-14-5	Sodium chloride		n.a.	n.a.	n.a.	n.a.		
7778	8-77-0	Potassium phosp	ohate, Monobasic	n.a.	n.a.	n.a.	n.a.		
7447	7-40-7	Potassium chlori	de	n.a.	n.a.	n.a.	n.a.		
			Section 12. Ecol	ogical Informa	ation	•			
2.1 Toxicity:		·:	Avoid release into the environment.						
			Runoff from fire control or dilut	ion water may cause	pollution.				
12.2	Persiste	ence and	No data available.						
	Degrad	ability:							
12.3	Bioaccu	Imulative	No data available.						
	Potentia	al:							
12.4	Mobility	in Soil:	No data available.						
12.5	Results	of PBT and vPvB	No data available.						
	assessi	ment:							
12.6	Other a	dverse effects:	No data available.						
			Section 13. Dispo	sal Considera	ations				
13.1	Waste [Disposal Method:	Dispose in accordance with loc	cal, state, and federa	regulations.				
			Section 14. Trar	nsport Informa	ation				
14.1		RANSPORT (US							
		er Shipping Name	-						
	-	d Class:	. Not dangerous goods.						
	N/NA Nu								
14.1			opean ADR/RID):						
		hipping Name:	Not dangerous goods.						
	N Numbe		Not dangerede geode.						
Ha	azard Cla	ISS:							
14.3	AIR TR	ANSPORT (ICAO	IATA):						
IC		Shipping Name:	Not dangerous goods.						
Additi	ional Tra	nsport	Transport in accordance with I	ocal, state, and fede	al regulations.				
Inforn	nation:								
			Section 15. Regu	latory Information	ation				
EPA S	SARA (Si	perfund Amendr	nents and Reauthorization Act	t of 1986) Lists					
CAS #	ŧ	Hazardous Com	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 31	3 (TRI)		
7558	8-79-4	Sodium phospha	te, Dibasic	No	Yes 5000 LB	No			
7647	7-14-5	Sodium chloride		No	No	No			
7778	8-77-0	Potassium phosp	ohate, Monobasic	No	No	No			
	7-40-7	Potassium chlori	de	No	No	No			



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CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA or State Lists			
7558-79-4	Sodium phospha	· · · · ·	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -			
			Inventory; CA PROP.65: No			
7647-14-5	Sodium chloride		CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
7778-77-0 Potassium phos		hate, Monobasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
7447-40-7	Potassium chlori	de	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
Regulatory Information Statement:		This SDS was prepared in acco No.1272/2008.	ordance with 29 CFR 1910.1200 and Regulation (EC)			
		Section 16. Ot	ner Information			
Revision Date		11/13/2015				
Additional Info	ormation About	No data available.				
This Product:						
			t to such information, and we assume no liability resulting from its own investigations to determine the suitability of the information fo			



Revision: 11/13/2015

Supersedes Revision: 05/02/2015 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:** 10011234 Product Name: Cell-Based Propidium Iodide Solution 1.2 Relevant identified uses of the substance or mixture and uses advised against: **Relevant identified uses:** For research use only, not for human or veterinary use. 1.3 Details of the Supplier of the Safety Data Sheet: **Company Name:** Cayman Chemical Company 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 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 **Classification of the Substance or Mixture:** Acute Toxicity: Oral, Category 5 Skin Corrosion/Irritation, Category 3 Serious Eye Damage/Eye Irritation, Category 2 2.2 Label Elements: **GHS Signal Word:** Warning **GHS Hazard Phrases:** H303: May be harmful if swallowed. H316: Causes mild skin irritation. H319: Causes serious eye irritation. **GHS Precaution Phrases:** P264: Wash {hands} thoroughly after handling. P280: Wear {protective gloves/protective clothing/eye protection/face protection}. **GHS Response Phrases:** P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P332+313: If skin irritation occurs, get medical advice/attention. 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.



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2.3 Adverse Human Health Causes mild skin and serious eye irritation.

Effects and Symptoms: 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.	GHS Classification
25535-16-4 SF7949600	Propidium iodide	0.0 -5.0 %	247-081-0 NA	Skin Corr. 2: H315 Eye Damage 2: H319 STOT (SE) 3: H335
7647-14-5 VZ4725000	Sodium chloride	0.0 -5.0 %	231-598-3 NA	Eye Damage 2A: H319
7447-40-7 TS8050000	Potassium chloride	0.0 -1.0 %	231-211-8 NA	Acute Tox.(O) 4: H302
7558-79-4 WC4500000	Sodium phosphate, Dibasic	0.0 -5.0 %	231-448-7 NA	Eye Damage 2: H319
7778-77-0 TC6615500	Potassium phosphate, Monobasic	0.0 -1.0 %	231-913-4 NA	Skin Corr. 1B: H314 Eye Damage 1: H318
7732-18-5 ZC0110000	Water	83.0 -100.0 %	231-791-2 NA	No data available.

Section 4. First Aid Measures

4.1	Description of First Aid						
	Measures:						
	In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention. 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.					
	In Case of Skin Contact:						
	In Case of Eye Contact:						
	In Case of Ingestion:	Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.					
		Section 5. Fire Fighting Measures					
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.					
	Media:	Use water spray to cool fire-exposed containers.					
	Unsuitable Extinguishing	A solid water stream may be inefficient.					
	Media:						
5.2	Flammable Properties an	dNo data available.					
	Hazards:						
		No data available.					
	Flash Pt:	No data.					
	Explosive Limits:	LEL: No data. UEL: No data.					
	Autoignition Pt:	No data.					
5.3	Fire Fighting Instructions	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or					
		Multi-region format					



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equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1	Protective Precautions,	Avoid breathing vapors and provide adequate ventilation.
	Protective Equipment and	As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,
	Emergency Procedures:	and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
6.2	Environmental	Take steps to avoid release into the environment, if safe to do so.
	Precautions:	
6.3	Methods and Material For	Contain spill and collect, as appropriate.
	Containment and Cleaning	Transfer to a chemical waste container for disposal in accordance with local regulations.

Up:

Section 7. Handling and Storage

- 7.1
 Precautions To Be Taken
 Avoid breathing dust/fume/gas/mist/vapours/spray.

 in Handling:
 Avoid prolonged or repeated exposure.
- 7.2 Precautions To Be Taken Keep container tightly closed.in Storing: Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

-				
CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
25535-16-4	Propidium iodide	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7558-79-4	Sodium phosphate, Dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	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
25535-16-4	Propidium iodide	No data.	No data.	No data.
7647-14-5	Sodium chloride	No data.	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
7558-79-4	Sodium phosphate, Dibasic	No data.	No data.	No data.
7778-77-0	Potassium phosphate, Monobasic	No data.	No data.	No data.
7732-18-5	Water	No data.	No data.	No data.

8.2 Exposure Controls:

8.2.1 Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne (Ventilation etc.): levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Safety glasses
Compatible chemical-resistant gloves
g:Lab coat
NIOSH approved respirator, as conditions warrant.
n Do not take internally.
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety
shower.



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F A E F E F E V	Sec nformation on Basic Physica Physical States: Appearance and Odor: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	tion 9. Physical and Chemical Properties al and Chemical Properties []Gas [X]Liquid []Solid Solution No data. No data. No data. No data. No data.
F A E F E F V	nformation on Basic Physica Physical States: Appearance and Odor: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	al and Chemical Properties []Gas [X] Liquid [] Solid Solution No data. No data. No data. No data. No data.
F A E F E F E V	Physical States: Appearance and Odor: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	[]Gas [X]Liquid []Solid Solution No data. No data. No data. No data.
A E F E F V	Appearance and Odor: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	Solution No data. No data. No data. No data.
N F E F V	Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	No data. No data. No data. No data.
E F E F V	Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	No data. No data. No data.
F E F E V	Flash Pt: Evaporation Rate: Flammability (solid, gas):	No data. No data.
E F E V	Evaporation Rate: Flammability (solid, gas):	No data.
F E V	Flammability (solid, gas):	
E V		No data available
v		
	Explosive Limits:	LEL: No data. UEL: No data.
	Vapor Pressure (vs. Air or m	m No data.
F	Hg):	
V	Vapor Density (vs. Air = 1):	No data.
S	Specific Gravity (Water = 1):	No data.
S	Solubility in Water:	No data.
A	Autoignition Pt:	No data.
).2 O	Other Information	
P	Percent Volatile:	No data.
		Section 10. Stability and Reactivity
0.1 F	Reactivity: No	o data available.
	-	nstable [] Stable [X]
	-	able if stored in accordance with information listed on the product insert.
		ill occur [] Will not occur [X]
	-	o data available.
	Incompatibility - Materials No	
	To Avoid:	
		o data available.
	Decomposition or	
	Byproducts:	
L	Byproducts.	



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1.1	Information	tion on	The toxicolo	ogical effects of this produ	t have not beer	n thoroughly st	udied.					
	Toxicolo	ogical Effects:										
Carcin	carcinogenicity: NTP? No IARC Monograp			IARC Monographs? N	OSHA Re	egulated? No						
CAS #	#	Hazardous Co	mponents (Ch	nemical Name)	NTP	IARC	ACGIH	OSHA				
2553	35-16-4	Propidium iodid	e		n.a.	n.a.	n.a.	n.a.				
7647	7-14-5	Sodium chloride	9		n.a.	n.a.	n.a.	n.a.				
7447	7-40-7	Potassium chlor	ride		n.a.	n.a.	n.a.	n.a.				
7558-79-4 Sodium phospha		ate, Dibasic	ate, Dibasic		n.a.	n.a.	n.a.					
7778	7778-77-0 Potassium phos		sphate, Monob	asic	n.a.	n.a.	n.a.	n.a.				
7732	2-18-5	Water			n.a.	n.a.	n.a.	n.a.				
			Sect	ion 12. Ecologica	al Informat	ion						
12.1	Toxicity	:	Avoid releas	se into the environment.								
			Runoff from	fire control or dilution wa	er may cause p	ollution.						
12.2	Persiste	nce and	No data ava		, ,							
	Degradability:											
12.3			No data ava	ailable.		Bioaccumulative No data available.						
12.3	Bioaccu	mulative	No data ava	ailable.								
	Bioaccu Potentia	mulative II:										
12.4	Bioaccu Potentia Mobility	mulative I: in Soil:	No data ava	ailable.								
12.4	Bioaccu Potentia Mobility	mulative II: in Soil: of PBT and vPv	No data ava	ailable.								
12.3 12.4 12.5 12.6	Bioaccu Potentia Mobility Results assessm	mulative I: in Soil: of PBT and vPv nent:	No data ava B No data ava	ailable. ailable.								
12.4	Bioaccu Potentia Mobility Results assessm	mulative II: in Soil: of PBT and vPv	No data ava B No data ava No data ava	ailable. ailable. ailable.	`opoidorot							
12.4 12.5 12.6	Bioaccu Potentia Mobility Results assess Other ad	mulative II: in Soil: of PBT and vPv nent: Iverse effects:	No data ava B No data ava No data ava Sectio	ailable. ailable. ailable. on 13. Disposal (
12.4 12.5	Bioaccu Potentia Mobility Results assess Other ad	mulative I: in Soil: of PBT and vPv nent:	No data ava B No data ava No data ava Sectio : Dispose in a	ailable. ailable. ailable. On 13. Disposal (accordance with local, sta	e, and federal r	egulations.						
12.4 12.5 12.6	Bioaccu Potentia Mobility Results assess Other ad	mulative II: in Soil: of PBT and vPv nent: Iverse effects:	No data ava B No data ava No data ava Sectio : Dispose in a	ailable. ailable. ailable. on 13. Disposal (e, and federal r	egulations.						
12.4 12.5 12.6	Bioaccu Potentia Mobility Results assessm Other ad	mulative II: in Soil: of PBT and vPv nent: Iverse effects:	No data ava B No data ava No data ava Sectio : Dispose in a Sec	ailable. ailable. ailable. On 13. Disposal (accordance with local, sta	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1	Bioaccu Potentia Mobility Results assessm Other ad Waste D	mulative II: in Soil: of PBT and vPv nent: dverse effects:	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT):	ailable. ailable. ailable. On 13. Disposal (accordance with local, sta	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 D0	Bioaccu Potentia Mobility Results assessm Other ad Waste D	mulative in Soil: of PBT and vPv nent: dverse effects: visposal Method RANSPORT (US or Shipping Nam	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT):	ailable. ailable. on 13. Disposal (accordance with local, sta stion 14. Transpo	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T	mulative II: in Soil: of PBT and vPv nent: Iverse effects: Visposal Method RANSPORT (US or Shipping Nam d Class:	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT):	ailable. ailable. on 13. Disposal (accordance with local, sta stion 14. Transpo	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar	mulative II: in Soil: of PBT and vPv nent: Iverse effects: Visposal Method RANSPORT (US or Shipping Nam d Class:	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT): e: Not dar	ailable. ailable. on 13. Disposal (accordance with local, sta stion 14. Transpo	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC UN 14.1	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar N/NA Nur LAND T	mulative in Soil: of PBT and vPv nent: dverse effects: visposal Method RANSPORT (US r Shipping Nam d Class: nber:	No data ava B No data ava No data ava Sections Dispose in a Sec S DOT): e: Not dar	ailable. ailable. on 13. Disposal (accordance with local, sta stion 14. Transpo	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC UN 14.1 AI	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar N/NA Nur LAND T DR/RID S N Numbe	mulative in Soil: of PBT and vPv nent: dverse effects: visposal Method RANSPORT (US or Shipping Nam d Class: nber: RANSPORT (Eu hipping Name: r:	No data ava B No data ava No data ava Sections Dispose in a Sec S DOT): e: Not dar	ailable. ailable. on 13. Disposal (accordance with local, sta ction 14. Transpo ngerous goods.	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC UN 14.1 AI	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar N/NA Nur LAND T DR/RID S N Numbe	mulative in Soil: of PBT and vPv nent: dverse effects: bisposal Method RANSPORT (US r Shipping Nam d Class: nber: RANSPORT (Eu hipping Name: r: ss:	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT): e: Not dar uropean ADR/F	ailable. ailable. on 13. Disposal (accordance with local, sta ction 14. Transpo ngerous goods.	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC UN 14.1 AI UN Ha 14.3	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar N/NA Nur LAND T DR/RID S N Numbe azard Cla AIR TR/	mulative in Soil: of PBT and vPv nent: dverse effects: visposal Method rRANSPORT (US r Shipping Nam d Class: nber: RANSPORT (Eu hipping Name: r: ss: ANSPORT (ICAC	No data ava No data ava No data ava Sectio Dispose in a Sec SDOT): e: Not dar Not dar Not dar	ailable. ailable. on 13. Disposal (accordance with local, sta tion 14. Transpo ngerous goods. RID): ngerous goods.	e, and federal r	egulations.						
12.4 12.5 12.6 13.1 14.1 DC UN 14.1 AI UN Ha 14.3 IC.	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar N/NA Nur LAND T DR/RID S N Numbe azard Cla AIR TR/	mulative in Soil: of PBT and vPv nent: dverse effects: disposal Method RANSPORT (US r Shipping Name d Class: nber: RANSPORT (Eu hipping Name: r: ss: ANSPORT (ICAC Shipping Name	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT): e: Not dar Not dar Not dar D/IATA): : Not dar	ailable. ailable. on 13. Disposal (accordance with local, sta stion 14. Transpo ngerous goods. RID): ngerous goods.	e, and federal n	egulations.						
12.4 12.5 12.6 13.1 14.1 DC UN 14.1 AI UN Ha 14.3 IC. Additi	Bioaccu Potentia Mobility Results assessm Other ad Waste D LAND T OT Prope OT Hazar N/NA Nur LAND T DR/RID S N Numbe azard Cla AIR TR/	mulative in Soil: of PBT and vPv nent: dverse effects: disposal Method RANSPORT (US r Shipping Name d Class: nber: RANSPORT (Eu hipping Name: r: ss: ANSPORT (ICAC Shipping Name	No data ava B No data ava No data ava Sectio : Dispose in a Sec S DOT): e: Not dar Not dar Not dar D/IATA): : Not dar	ailable. ailable. on 13. Disposal (accordance with local, sta tion 14. Transpo ngerous goods. RID): ngerous goods.	e, and federal n	egulations.						



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		Section 15. Regu				
		nents and Reauthorization Act				
CAS #		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)	
25535-16-4	Propidium iodide		No	No	No	
7647-14-5	Sodium chloride		No	No	No	
7447-40-7	Potassium chlorid		No	No	No	
7558-79-4	Sodium phospha		No	Yes 5000 LB	No	
7778-77-0	Potassium phosp	ohate, Monobasic	No	No	No	
7732-18-5	Water		No	No	No	
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA o	or State Lists		
25535-16-4	Propidium iodide		CAA HAP,ODC: PROP.65: No	No; CWA NPDES:	No; TSCA: No; CA	
7647-14-5	Sodium chloride		CAA HAP,ODC: Inventory; CA P	No; CWA NPDES: ROP.65: No	No; TSCA: Yes -	
7447-40-7	Potassium chlorid	de	CAA HAP,ODC: Inventory; CA P	No; CWA NPDES: PROP.65: No	No; TSCA: Yes -	
7558-79-4	Sodium phospha	te, Dibasic	CAA HAP,ODC: Inventory; CA P	No; CWA NPDES: PROP.65: No	No; TSCA: Yes -	
7778-77-0	Potassium phosp	hate, Monobasic	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
7732-18-5	Water		CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
Regulatory Inf Statement:	ormation	This SDS was prepared in acc No.1272/2008.			gulation (EC)	
		Section 16. Ot	ner informati	on		
Revision Date:	:	11/13/2015				
Additional Info This Product:	ormation About	No data available.				
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