

Revision: 11/23/2016

	acco	ording to Regulation (EC) No. 1907/2006 as amended by	/ (EC) No. 1272/2008
	Section 1. I	dentification of the Substance/Mixture and of t	the Company/Undertaking
1.1	Product Code:	601283	
	Product Name:	TMRE Dye	
1.2	Relevant identified uses of	the substance or mixture and uses advised ag	gainst:
	Relevant identified uses:	For research use only, not for human or veter	inary use.
1.3	Details of the Supplier of the	he 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 num	ber:	
	Emergency Contact:	CHEMTREC Within USA and Canada:	+1 (800)424-9300
		CHEMTREC Outside USA and Canada:	+1 (703)527-3887
		Section 2. Hazards Identific	cation
2.1	Classification of the Subst	ance or Mixture:	
	Acute Toxicity: Inhalation	n, Category 4	
	Acute Toxicity: Oral, Cat	egory 4	
	Skin Corrosion/Irritation,	Category 2	
	Serious Eye Damage/Eye	e Irritation, Category 2	
2.2	Label Elements:		
	\wedge		
	•		
	GHS Signal Word:	Worning	
	GHS Signal Word. GHS Hazard Phrases:	Warning	
	H302: Harmful if swallowe	d	
	H315: Causes skin irritatio		
	H319: Causes serious eye		
	H332: Harmful if inhaled.		
	GHS Precaution Phrases	:	
	P261: Avoid breathing {du	st/fume/gas/mist/vapors/spray}.	
	P264: Wash {hands} thoro		
	P280: Wear {protective glo	oves/protective clothing/eye protection/face protect	tion}.
	GHS Response Phrases:		
	P301+312: IF SWALLOWE	ED: P312: Call a POISON CENTER or doctor/phys	sician if you feel unwell.
	P302+352: IF ON SKIN: W	/ash with plenty of soap and water.	
	P304+340: IF INHALED: R	Remove victim to fresh air and keep at rest in a pos	sition comfortable for breathing.
		S: Rinse cautiously with water for several minutes	s. Remove contact lenses, if present and easy
	to do. Continue rinsing.		
	P330: Rinse mouth.		
		occurs, get medical advice/attention.	
	P337+313: If eye irritation	persists, get medical advice/attention.	



Laj	man							
	P362	: Take off contamina	ated clothing and wash before	re-use.				
	GHS	Storage and Dispo	osal Phrases:					
	Pleas	se refer to Section 7	for Storage and Section 13 for	r Disposal informatio	on.			
2.3	Advers	se Human Health	Causes serious eye irritation					
	Effects and Symptoms: Causes skin irritation.							
	Harmful if inhaled or swallowed.							
	Material may be irritating to the mucous membranes and upper respiratory tract.							
			May be harmful by skin abso	•				
			May cause respiratory system		<i></i>			
			I o the best of our knowledge	e, the toxicological p	properties have no	t been thoroughly investigated.		
		Sec	tion 3. Composition	/Information	on Ingredie	nts		
CAS	;#/	Hazardous Com	ponents (Chemical Name)/	Concentration	EC No./	GHS Classification		
RTE	CS #	REACH Registra	tion No.		EC Index No.			
NA		TMRE Dye		100.0 %	NA	Acute Tox.(O) 4: H302		
NA					NA	Acute Tox.(I) 4: H332		
						Skin Corr. 2: H315		
						Eye Damage 2A: H319		
			Section 4. Fi	rst Aid Meas	ures			
l.1	Descri	ption of First Aid						
	Measu	Measures:						
	In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained per							
			Get immediate medical atten	tion.				
	In Cas	e of Skin Contact:	Immediately wash skin with s	soap and plenty of w	ater for at least 15	5 minutes. Remove contaminate		
			clothing. Get medical attentic	on if symptoms occu	r. Wash clothing b	efore reuse.		
	In Cas	e of Eye Contact:	Hold eyelids apart and flush	nd flush eyes with plenty of water for at least 15 minutes. Have eyes examined				
			and tested by medical personnel.					
	In Cas	e of Ingestion:	Wash out mouth with water p	•	•			
				dical attention. Do N	NOT induce vomiti	ng unless directed to do so by		
			medical personnel.					
			Section 5. Fire	Fighting Me	asures			
5.1	Suitab	le Extinguishing	Use alcohol-resistant foam, o	carbon dioxide, wate	er, or dry chemical	spray.		
	Media:	:	Use water spray to cool fire-	exposed containers				
	Unsuit	able Extinguishing	g A solid water stream may be	inefficient.				
	Media:	:						
5.2	Flamm	able Properties ar	dNo data available.					
	Hazaro	ds:						
			No data available.					
	Flash I	Pt:	No data.					
	Explos	sive Limits:	LEL: No data.	UEL: No d	lata.			
	Autoig	nition Pt:	No data.					
5.3	Fire Fi	ghting Instructions	s: As in any fire, wear self-cont	ained breathing app	paratus pressure-d	emand (NIOSH approved or		
			equivalent), and full protectiv		-			



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	S	ection 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid raising and breathing dust, and provide adequate ventilation.
	Protective Equipment and A	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	Fake 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	Fransfer to a chemical waste container for disposal in accordance with local regulations.
	Up:	
		Section 7. Handling and Storage
7.1	Precautions To Be Taken A	void breathing dust/fume/gas/mist/vapours/spray.
	in Handling:	void prolonged or repeated exposure.
7.2	Precautions To Be Taken	eep container tightly closed.
	in Storing:	tore in accordance with information listed on the product insert.
	Sectio	on 8. Exposure Controls/Personal Protection
8.1	Exposure Parameters:	
8.2	Exposure Controls:	
8.2.1	Engineering Controls	lse process enclosures, local exhaust ventilation, or other engineering controls to control airborne
	(Ventilation etc.):	evels below recommended exposure limits.
8.2.2	Personal protection equipm	ient:
	Eye Protection:	afety glasses
	Protective Gloves: 0	Compatible chemical-resistant gloves
	Other Protective Clothing:L	ab coat
	Respiratory Equipment N	IIOSH approved respirator, as conditions warrant.
	(Specify Type):	
	Work/Hygienic/Maintenan	o not take internally.
	ce Practices: F	acilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
	V	Vash thoroughly after handling.
	Ν	lo data available.
	See	ction 9. Physical and Chemical Properties
9.1	Information on Basic Physic	al and Chemical Properties
	Physical States:	[]Gas []Liquid [X]Solid
	Appearance and Odor:	A solid
	pH:	No data.
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	No data.
	Evaporation Rate:	No data.
	Flammability (solid, gas):	No data available.
	Explosive Limits:	LEL: No data. UEL: No data.
	Vapor Pressure (vs. Air or r	nm No data.
	Hg): Vapor Density (vs. Air = 1):	No data.
		Multi-region format



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	Specific Gravity (Water =	1): No data.						
	Solubility in Water:	No data.						
	Solubility Notes:	Soluble in: DMSO;						
	Octanol/Water Partition	No data.						
	Coefficient:							
	Autoignition Pt:	No data.						
	Decomposition Temperat	ure: No data.						
	Viscosity:	No data.						
9.2	Other Information							
	Percent Volatile:	No data.						
		Section 10. Stabilit	y and Reactiv	/ity				
10.1	Reactivity:	No data available.						
10.2	Stability:	Unstable [] Stable [X]						
10.3	Stability Note(s):	Stable if stored in accordance wit	h information listed o	n the product	insert.			
	Polymerization:	Will occur [] Will not occur [[X]					
10.4	Conditions To Avoid:	No data available.						
10.5	Incompatibility - Materials	strong oxidizing agents						
	To Avoid:							
10.6	Hazardous	carbon dioxide						
	Decomposition or	carbon monoxide						
	Byproducts:	hydrogen chloride gas						
		nitrogen oxides						
		Section 11. Toxicolo	ogical Informa	tion				
11.1	Information on	The toxicological effects of this pr	•		tudied.			
	Toxicological Effects:	···· ·································						
			NTD		4000			
CAS		ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
	NA TMRE Dye		n.a.	n.a.	n.a.	n.a.		
		Section 12. Ecolog	jical Informati	on				
12.1	Toxicity:	Avoid release into the environment						
		Runoff from fire control or dilution	water may cause po	ollution.				
12.2	Persistence and	No data available.						
	Degradability:							
12.3	Bioaccumulative	No data available.						
	Potential:							
12.4	Mobility in Soil:	No data available.						
12.5	Results of PBT and vPvB	No data available.						
	assessment:							
12.6	Other adverse effects:	No data available.						



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		Section 13. Dispos	sal Considera	ations			
13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations. Section 14. Transport Information							
		Section 14. Tran	sport Informa	ation			
14.1 LAND	TRANSPORT (US	DOT):					
DOT Prop	er Shipping Name	Not dangerous goods.					
DOT Haza							
UN/NA Nu							
	TRANSPORT (Eur						
UN Numbe	Shipping Name:	Not dangerous goods.					
Hazard Cl							
14.3 AIR TR	ANSPORT (ICAO/	IATA):					
ICAO/IAT/	A Shipping Name:	Not dangerous goods.					
Additional Tra	ansport	Transport in accordance with lo	ocal, state, and feder	ral regulations.			
Information:							
		Section 15. Regu	latory Informa	ation			
EPA SARA (S	uperfund Amendn	nents and Reauthorization Act	of 1986) Lists				
CAS #		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)		
NA	TMRE Dye		No	No	No		
CAS #		ponents (Chemical Name)	Other US EPA or				
NA	TMRE Dye		CAA HAP,ODC: PROP.65: No	No; CWA NPDES:	No; TSCA: No; CA		
Regulatory Inf Statement:	ormation	This SDS was prepared in accord No.1272/2008.	ordance with 29 CFF	R 1910.1200 and R	egulation (EC)		
· · · · · · · · · · · · · · · · · · ·		Section 16. Ot	her Informatio	on			
Revision Date	:	11/23/2016					
	: prmation About	11/23/2016 No data available.					
Additional Info This Product:	ormation About						
Additional Info This Product:			ver, we make no war t to such information	rranty of merchanta n, and we assume n	bility or any other warranty o liability resulting from its		
Additional Info This Product:	ormation About	No data available. DISCLAIMER: This information currently available to us. Howe express or implied, with respec use. Users should make their o	ver, we make no war t to such information	rranty of merchanta n, and we assume n	bility or any other warranty o liability resulting from its		
Additional Info This Product:	ormation About	No data available. DISCLAIMER: This information currently available to us. Howe express or implied, with respec use. Users should make their o	ver, we make no war t to such information	rranty of merchanta n, and we assume n	bility or any other warranty o liability resulting from its		
Additional Info This Product:	ormation About	No data available. DISCLAIMER: This information currently available to us. Howe express or implied, with respec use. Users should make their o	ver, we make no war t to such information	rranty of merchanta n, and we assume n	bility or any other warranty o liability resulting from its		
Additional Info This Product:	ormation About	No data available. DISCLAIMER: This information currently available to us. Howe express or implied, with respec use. Users should make their o	ver, we make no war t to such information	rranty of merchanta n, and we assume n	bility or any other warranty o liability resulting from its		
Additional Info This Product:	ormation About	No data available. DISCLAIMER: This information currently available to us. Howe express or implied, with respec use. Users should make their o	ver, we make no war t to such information	rranty of merchanta n, and we assume n	bility or any other warranty o liability resulting from its		

Multi-region format



Revision: 12/18/2017 Supersedes Revision: 04/03/2017

	accor		
		ding to Regulation (EC) No. 1907/2006 as amended by (
	Section 1. Id	entification of the Substance/Mixture and of th	ne Company/Undertaking
.1	Product Code:	701311	
	Product Name:	FCCP Control	
.2		the substance or mixture and uses advised aga	
	Relevant identified uses:	For research use only, not for human or vetering	hary use.
.3	Details of the Supplier of th	-	
	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:	+1 (800)424-9300
		CHEMTREC Outside USA and Canada:	+1 (703)527-3887
		Section 2. Hazards Identifica	ation
2.1	Classification of the Substa	nce or Mixture:	
	Flammable Liquids, Categ	jory 4	
	Skin Sensitization, Catego	ory 1	
2.2	Label Elements:		
	GHS Signal Word:	Warning	
	GHS Signal Word: GHS Hazard Phrases:	Warning	
	GHS Hazard Phrases: H227: Combustible liquid.		
	GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi	c skin reaction.	
	GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases:	c skin reaction.	
	GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases: P210: Keep away from {hea	c skin reaction. at/sparks/open flames/hot surfaces} No smoking	
	GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dus	c skin reaction. at/sparks/open flames/hot surfaces} No smoking t/fume/gas/mist/vapors/spray}.	
	GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dus P272: Contaminated work of	c skin reaction. at/sparks/open flames/hot surfaces} No smoking t/fume/gas/mist/vapors/spray}. clothing should not be allowed out of the workplace	Э.
	GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases: P210: Keep away from {hea P261: Avoid breathing {dus P272: Contaminated work of P280: Wear {protective glow	c skin reaction. at/sparks/open flames/hot surfaces} No smoking t/fume/gas/mist/vapors/spray}.	Э.
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	 GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases: P210: Keep away from {heat P261: Avoid breathing {dust P272: Contaminated work of P280: Wear {protective glower GHS Response Phrases: P302+352: IF ON SKIN: Wat P333+313: If skin irritation of 	c skin reaction. at/sparks/open flames/hot surfaces} No smoking t/fume/gas/mist/vapors/spray}. clothing should not be allowed out of the workplace ves/protective clothing/eye protection/face protection ash with plenty of soap and water.	Э.
	 GHS Hazard Phrases: H227: Combustible liquid. H317: May cause an allergi GHS Precaution Phrases: P210: Keep away from {heat P261: Avoid breathing {dust P272: Contaminated work of P280: Wear {protective glower GHS Response Phrases: P302+352: IF ON SKIN: Wat P333+313: If skin irritation of P362+364: Take off contaminated and Disposation 	c skin reaction. at/sparks/open flames/hot surfaces} No smoking t/fume/gas/mist/vapors/spray}. clothing should not be allowed out of the workplace ves/protective clothing/eye protection/face protection ash with plenty of soap and water. or rash occurs, seek medical advice/attention. hinated clothing and wash it before reuse. al Phrases:	ə. on}.
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Cayman

			FC	CCP Control		Povision: 12/18/2017		
cay	man					Revision: 12/18/2017 Supersedes Revision: 04/03/2017		
2.3	Adverse Human	Health	DMSO has the potential to ca	arry toxic materials				
	Effects and Sym	ptoms:	DMSO is readily absorbed th	rough skin.				
			Material may be irritating to the	he mucous memb	ranes and upper re	spiratory tract.		
			May be harmful by inhalation	, ingestion, or skir	absorption.			
			May cause an allergic skin re	action.				
			May cause eye, skin, or respi	iratory system irrit	ation.			
			To the best of our knowledge	, the toxicological	properties have no	t been thoroughly investigated.		
		Sect	ion 3. Composition	/Informatior	n on Ingredie	ents		
CAS	# / Hazardo	ous Comp	onents (Chemical Name)/	Concentration	EC No./	GHS Classification		
RTEC	CS # REACH	Registrat	ion No.		EC Index No.			
370)-86-5 2-{2-[4-(T	rifluoromet	noxy)phenyl]hydrazono}malonon	0.5 %	206-730-8	Acute Tox.(O) 3: H301		
FG57	75000 itrile				NA	Skin Sens. 1: H317		
						Aquatic (C) 4: H413		
67-	-68-5 Dimethyl	sulfoxide, a	nhydrous	99.5 %	200-664-3	Flam. Liq. 4: H227		
PV62 ²	10000				NA			
	•		Section 4. Fir	rst Aid Mea	sures	•		
4.1	Description of F	irst Aid						
	Measures:							
	In Case of Inhal	ation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel.					
			Get immediate medical attention.					
					water for at least 1	5 minutes. Remove contaminat		
	In case of okin	contact.	-					
	In Coop of Evo (-	et medical attention if symptoms occur. Wash clothing before reuse. s apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined					
	•							
			and tested by medical person					
	In Case of Inges	stion:	Wash out mouth with water p	•				
			medical personnel.	dicar attention. Do	NOT Induce vomiti	ng unless directed to do so by		
			·		f			
4.2			Exposure may cause: hematu					
	Effects, Both Ac	ute and		rointestinal irritation with nausea, vomiting, diarrhea, headache,				
	Delayed:		dizziness, and drowsiness.	s, and drowsiness. tact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.				
						tearing, and vasodilation.		
			Section 5. Fire	• •				
5.1	Suitable Extingu	uishing	Use alcohol-resistant foam, c		-	l spray.		
	Media:		Use water spray to cool fire-e	exposed container	S.			
	Unsuitable Extir	nguishing	A solid water stream may be	inefficient.				
	Media:							
5.2	Flammable Prop	perties and	dCan release vapors that form	explosive mixture	es at temperatures	at or above the flashpoint.		
	Hazards:		Container explosion may occ					
			Emits toxic fumes under fire of	oxic fumes under fire conditions.				
			Sensitive to static discharge.					
			Vapors can travel to a source	e of ignition and fla	ash back.			
			No data available.					
	Flash Pt:		89.00 C Method Used: Clo	osed Cup				
	Explosive Limits	e.	LEL: 3.5% at 25.0 C	UEL: 42.0	% at 25.0 C			
	-		LLL. 3.370 at 23.00	UEL. 42.0	70 at 20.00			
	Autoignition Pt:		215.00 C					



6.1

6.2

6.3

7.1

7.2

8.1

8.2

SAFETY DATA SHEET FCCP Control

Revision: 12/18/2017 Supersedes Revision: 04/03/2017 equivalent), and full protective gear to prevent contact with skin and eyes. Note: Combustible as diluted in dimethyl sulfoxide. Section 6. Accidental Release Measures **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, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). **Emergency Procedures:** Environmental Take steps to avoid release into the environment, if safe to do so. Precautions: 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 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure. in Handling: Keep away from sources of ignition. Take precautionary measures against static discharge. Precautions To Be Taken Keep away from heat, sparks and flame. Keep container tightly closed. in Storing: Store in accordance with information listed on the product insert. Other Precautions: Hygroscopic Section 8. Exposure Controls/Personal Protection **Exposure Parameters: Exposure Controls:** 8.2.1 Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne **Engineering Controls** levels below recommended exposure limits. (Ventilation etc.): 8.2.2 Personal protection equipment: Safety glasses Eye Protection: **Protective Gloves:** Compatible chemical-resistant gloves Other Protective Clothing: Lab coat **Respiratory Equipment** NIOSH approved respirator, as conditions warrant. (Specify Type): Work/Hygienic/Maintenan Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. ce Practices: Wash thoroughly after handling. No data available.

Multi-region format



Revision: 12/18/2017 Supersedes Revision: 04/03/2017

	CHIMICAL	Supersedes Revision: 04/03/2017
	S	ection 9. Physical and Chemical Properties
9.1	Information on Basic Phys	sical and Chemical Properties
	Physical States:	[]Gas [X]Liquid []Solid
	Appearance and Odor:	A liquid
	pH:	No data.
	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 o	r mm 0.37 MM_HG at 20.0 C
	Hg):	
	Vapor Density (vs. Air = 1): No data.
	Specific Gravity (Water =	1): No data.
	Solubility in Water:	No data.
	Octanol/Water Partition	No data.
	Coefficient:	
	Autoignition Pt:	215.00 C
	Decomposition Temperat	ure: No data.
	Viscosity:	No data.
.2	Other Information	
	Percent Volatile:	No data.
	Molecular Formula & Wei	ght: C10H5F3N4O 254.2
		Section 10. Stability and Reactivity
0.1	Reactivity:	No data available.
0.2	Stability:	Unstable [] Stable [X]
0.3	Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
10.5	Polymerization:	Will occur [] Will not occur [X]
0.4	Conditions To Avoid:	heat, flames and sparks
0.5	Incompatibility - Materials	
	To Avoid:	phosphorus halides strong acids
		alkali metals
		strong oxidizing agents
		strong reducing agents
0.6	Hazardous	carbon monoxide
0.0	Decomposition or	carbon dioxide
	Byproducts:	sulfur oxides
	Byproducts.	



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			Sectio	n 11. Toxicolog	ical Inform	nation		
11.1 Information on Toxicological Effects: Chronic Toxicological Effects:			The toxicolo DMSO - Tox (mouse): 7,9 Inhalation L DMSO - Irrit FCCP - Tox DMSO - Inv Only select See actual e DMSO RTE	gical effects of this prod kicity Data: Oral LD50 (ra 220 mg/kg; Skin LD50 (n C50 (rat): >1,600 mg/m3 ation Data: Eyes (rabbit) icity Data: Intraperitonea estigated as a mutagen, Registry of Toxic Effects entry in RTECS for comp CS Number: PV6210000 CS Number: FG5775000 IARC Monographs? N	uct have not be at): 14,500 mg/ house): 50,000 (4h); : 100 mg mild; I LD50 (mouse reproductive e of Chemical S lete informatio	een thorough kg; Skin LD5 mg/kg; Skin Skin (rabbit) s): 8 mg/kg; ffector, and t ubstances (f	: i0 (rat): 40,000 mg TDLO (woman): 1 : 500 mg (24h) mi : umorigen. RTECS) data is pre	l,800 mg/kg; ld;
	nogenicity #	Hazardous Com		.		IARC		OSHA
)-86-5		• •	nyl]hydrazono}malononiti		n.a.	n.a.	n.a.
	-68-5	Dimethyl sulfoxid	571	, , ,	n.a.	n.a.	n.a.	n.a.
			Sect	ion 12. Ecologic	al Inform	ation		ļ
12.2 12.3 12.4 12.5	assessm	bility: nulative : in Soil: of PBT and vPvB ent:	No data ava No data ava No data ava	ilable. ilable. ilable.				
12.6		verse effects: sposal Method:		on 13. Disposal				
			Dispose in a	•	ate, and federa	I regulations		
13.1 14.1 D D	Waste Di LAND TH OT Proper OT Hazaro N/NA Num	sposal Method: RANSPORT (US Shipping Name I Class:	Dispose in a Sec DOT): : Combus NA1993	stible liquid, n.o.s. (Dime FLAMMABLE LI	ate, and federa ort Informa thyl Sulfoxide)	I regulations		
13.1 14.1 D U	Waste Di LAND TH OT Proper OT Hazard N/NA Num	sposal Method: RANSPORT (US Shipping Name I Class: aber:	Dispose in a Sec DOT): : Combus NA1993	stible liquid, n.o.s. (Dime FLAMMABLE LI	ate, and federa ort Informa thyl Sulfoxide) QUID	I regulations		
13.1 14.1 D U 14.1	Waste Di LAND TH OT Proper OT Hazard N/NA Num	Sposal Method: RANSPORT (US Shipping Name I Class: Iber: RANSPORT (Euro hipping Name:	Dispose in a Sec DOT): : Combus NA1993	stible liquid, n.o.s. (Dime FLAMMABLE LI	ate, and federa ort Informa thyl Sulfoxide) QUID	il regulations ation oup:		



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14.3 AIR TRANSPORT (ICAO/IATA):

 ICAO/IATA Shipping Name:
 Not dangerous goods.

 Additional Transport
 Transport in accordance with local, state, and federal regulations.

 Information:
 When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.

 Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Com	ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)	
370-86-5	2-{2-[4-(Trifluoron nonitrile	methoxy)phenyl]hydrazono}malo	No	No	No	
67-68-5 Dimethyl sulfoxic		le, anhydrous	No	No	No	
CAS # Hazardous Con		ponents (Chemical Name)	Other US EPA o	r State Lists		
370-86-5 2-{2-[4-(Trifluoron nonitrile		methoxy)phenyl]hydrazono}malo	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No			
67-68-5 Dimethyl sulfoxic		le, anhydrous	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No			
Regulatory In	formation	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC)				
Statement:		No.1272/2008.				
		Section 16. Oth	er Informatio	on		
Revision Date	:	12/18/2017				
Additional Info	ormation About	No data available.				
This Product:						
Company Poli	icy or Disclaimer:	DISCLAIMER: This information i		•		

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.



Multi-region format

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_	accord	ting to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/83	Supersedes Revision: 11/20/201 30 and US OSHA HCS 2015					
		Identification of the Substance/Mixture and of the						
_			ne company/ondentaking					
.1	Product Code: Product Name:	10009322 Coll Record Accour Ruffer Tablet						
		Cell-Based Assay Buffer Tablet						
.2		of the substance or mixture and uses advised ag						
	Relevant identified use	s: For research use only, not for human or veteri	nary 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					
.4	Emergency telephone nu							
	Emergency Contact:	CHEMTREC Within USA and Canada:	+1 (800)424-9300					
		CHEMTREC Outside USA and Canada:	+1 (703)527-3887					
		Section 2. Hazards Identific	้อแบบ					
2.1	Classification of the Substance or Mixture:							
		Skin Corrosion/Irritation, Category 3						
	Serious Eye Damage/Eye Irritation, Category 2							
2.2	Label Elements:							
	GHS Signal Word:	Warning						
	GHS Hazard Phrases:							
	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.							
	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.							
			L.					
2.3	Adverse Human Health	Causes serious eye irritation. Causes mild skin irritation.						
	Effects and Symptoms:	Material may be irritating to the mucous membran	es and upper respiratory tract					
		May be harmful by inhalation, ingestion, or skin ab						
		May cause respiratory system irritation.						
		To the best of our knowledge, the toxicological pro	operties have not been thoroughly investigated					



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CAS #/		Hazardous Components (Chemical Name)/		Concentration	EC No./	GHS Classification			
NA NA		REACH Registration No. Phosphate buffered saline (PBS) tablet		100.0 %	EC Index No.				
					NA NA	No data available.			
			Section 4. Fi	rst Aid Meas	ures				
4.1	Descrip	tion of First Aid							
		es:							
		of Inhalation:							
		of Skin Contact:							
		clothing. Get medical attention if symptoms occur. Wash clothing before reuse.							
In Ca		of Eye Contact:							
		and tested by medical personnel.							
	In Case	Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an							
			-	dical attention. Do N	IOT induce vomiti	ng unless directed to do so by			
			medical personnel.						
			Section 5. Fire	Fighting Me	asures				
5.1	Suitable	e Extinguishing	Use alcohol-resistant foam,		-	spray.			
	Media:		Use water spray to cool fire-	exposed containers					
Unsuitable Extinguishing A solid water stream may be inefficient.									
	Media:								
5.2		Flammable Properties andNo data available.							
Hazards:									
			No data available.						
	Flash P		No data.						
	=	ve Limits:	LEL: No data.	UEL: No d	ata.				
	-	nition Pt:	No data.						
5.3	Fire Fig	Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or							
			equivalent), and full protectiv	e gear to prevent co	ontact with skin an	d eyes.			
			Section 6. Accider	ntal Release	Measures				
6.1	Protect	ive Precautions,	Avoid raising and breathing	dust, and provide a	dequate ventilatior	٦.			
	Protect	ive Equipment and				eathing apparatus, or respirator,			
	Emerge	ency Procedures:	Procedures: and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).						
6.2	Enviror	nmental	Take steps to avoid release	into the environmer	nt, if safe to do so.				
	Precaut	tions:							
6.3		Methods and Material For Contain spill and collect, as appropriate.							
		ontainment and CleaningTransfer to a chemical waste container for disposal in accordance with local regulations.							
	Up:								
			Section 7. Har	ndling and St	orage				
7.1	Precaut	tions To Be Taken	Avoid breathing dust/fume/g	as/mist/vapours/spr	ay.				
	in Hand	lling:	Avoid prolonged or repeated	exposure.					
7.2	Precaut	tions To Be Taken	Keep container tightly closed	ł.					
	in Stori	ng:	Store in accordance with info	ormation listed on th	e product insert.				
						Multi-region forma			



		tion 8. Exposure Controls/Personal Protection				
3.1	Exposure Parameters:					
8.2	Exposure Controls:					
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airbo				
	(Ventilation etc.):	evels below recommended exposure limits.				
8.2.2						
	Eye Protection:	y glasses				
	Protective Gloves:	Compatible chemical-resistant gloves				
	Other Protective Clothing:Lab coat					
	Respiratory Equipment	NIOSH approved respirator, as conditions warrant.				
	(Specify Type):					
	Work/Hygienic/Maintenan Do not take internally.					
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safet				
		shower.				
		Wash thoroughly after handling.				
		No data available.				
	S	ection 9. Physical and Chemical Properties				
	Information on Basic Physical and Chemical Properties					
9.1	Information on Basic Phys	sical and Chemical Properties				
∋ .1	Information on Basic Physe Physical States:	sical and Chemical Properties []Gas []Liquid [X]Solid				
9.1	-	-				
9.1	Physical States:	[]Gas []Liquid [X]Solid				
9.1	Physical States: Appearance and Odor:	[]Gas []Liquid [X]Solid PBS tablet				
9.1	Physical States: Appearance and Odor: pH:	[]Gas []Liquid [X]Solid PBS tablet 7.4				
9.1	Physical States: Appearance and Odor: pH: Melting Point:	[]Gas []Liquid [X]Solid PBS tablet 7.4 No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point:	[]Gas []Liquid [X]Solid PBS tablet 7.4 No data. No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt:	[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate:	[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas):	[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. LEL: No data. UEL: No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits:	[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. LEL: No data. UEL: No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o	[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. No data. LEL: No data. Tmm No data.				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg):	<pre>[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. No data. LEL: No data. UEL: No data. rmm No data.): No data.</pre>				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg): Vapor Density (vs. Air = 1	<pre>[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. No data. LEL: No data. UEL: No data. rmm No data.): No data.</pre>				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg): Vapor Density (vs. Air = 1 Specific Gravity (Water =	<pre>[]Gas []Liquid [X]Solid PBS tablet 7.4 No data. No data. No data. No data. No data. No data. LEL: No data. UEL: No data. rmm No data.): No data.] No data.] No data.] No data.</pre>				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg): Vapor Density (vs. Air = 1 Specific Gravity (Water = Solubility in Water:	<pre>[]Gas []Liquid [X]Solid PBS tablet 7.4 No data. No data. No data. No data. No data. LEL: No data. LEL: No data.): No data.]: No data.</pre>				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg): Vapor Density (vs. Air = 1 Specific Gravity (Water = Solubility in Water: Solubility Notes:	<pre>[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. LEL: No data. UEL: No data.): No data.]: No data.]:</pre>				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg): Vapor Density (vs. Air = 1 Specific Gravity (Water = Solubility in Water: Solubility Notes: Octanol/Water Partition	<pre>[] Gas [] Liquid [X] Solid PBS tablet 7.4 No data. No data. No data. No data. No data. LEL: No data. UEL: No data.): No data.]: No data.]:</pre>				
9.1	Physical States: Appearance and Odor: pH: Melting Point: Boiling Point: Flash Pt: Evaporation Rate: Flammability (solid, gas): Explosive Limits: Vapor Pressure (vs. Air o Hg): Vapor Density (vs. Air = 1 Specific Gravity (Water = Solubility in Water: Solubility Notes: Octanol/Water Partition Coefficient:	[]Gas []Liquid [X]Solid PBS tablet 7.4 No data. No data. No data. No data. No data. No data. LEL: No data. UEL: No data. No data.				



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9.2	Other Inf	formation			51	upersedes Revis	NUII. 11/20/201	
J.Z		Volatile:	No data.					
	reicent	volatile.						
			Section 10. Stability	and Reacti	vity			
10.1	Reactivi	-	No data available.					
10.2	-	Stability: Unstable [] Stable [X]						
10.3								
	Polyme							
10.4	Conditions To Avoid: No data available.							
10.5	-	atibility - Materials	-					
	To Avoi		strong oxidizing agents					
10.6	Hazardo		hydrogen chloride gas					
	-	position or	phosphorus oxides					
	Byprodu	ucts:	potassium oxides sodium oxides					
			Section 11. Toxicolog	ical Informa	ation			
11.1	Informa	tion on	The toxicological effects of this produ	uct have not beer	n thoroughly st	udied.		
	Toxicol	ogical Effects:						
CAS	#	Hazardous Com	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA	
	NA	Phosphate buffer	ed saline (PBS) tablet	n.a.	n.a.	n.a.	n.a.	
		·	Section 12. Ecologic	al Informat	ion	•	·	
12.1	Toxicity	/:	Avoid release into the environment.					
	Runoff from fire control or dilution water may cause pollution.							
12.2	Persiste	ence and	No data available.					
	Degrada	ability:						
12.3	Bioaccu	Imulative	No data available.					
	Potentia							
12.4								
12.5	-							
	.5 Results of PBT and vPvB No data available. assessment:							
12.6		dverse effects:	No data available.					
-			Section 13. Disposal	Considerat	ione			
13.1	Wasto F	Disposal Method:	Dispose in accordance with local, sta					
	Waste				-			
			Section 14. Transpo	n mornal				
14.1		RANSPORT (US I	-					
	-	er Shipping Name:	Not dangerous goods.					
	OT Hazar							
U	N/NA Nur	mber:						
14.1		RANSPORT (Euro						
		hipping Name:	Not dangerous goods.					
	N Numbe							
Н	azard Cla	ISS:						
							Aulti-rogion for	



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14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name:

Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

CAS # Hazardous Com		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)	
NA	Phosphate buffer	ed saline (PBS) tablet	No	No	No	
CAS #	Hazardous Components (Chemical Name)		Other US EPA or State Lists			
NA	Phosphate buffer	ed saline (PBS) tablet	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No			
Regulatory Info Statement:	ormation	This SDS was prepared in acc No.1272/2008.	ordance with 29 CFF	R 1910.1200 and R	egulation (EC)	
		Section 16. Ot	her Information	on		
Revision Date:		08/12/2018				
Additional Info	rmation About	No data available.				
This Product:						
Company Policy or Disclaimer:		DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.				