

Page: 1 of 6

	Section 1 Id	entification of the Substance/Mixture and of th	e Company/Undertaking				
			e company/ondentaking				
1	Product Code:	18897					
	Product Name:	5-Phospho-D-ribose 1-diphosphate (sodium sa					
	Synonyms:	5-(dihydrogen phosphate) 1-(trihydrogen dipho P-rib-PP; PRPP; Phosphoribosyl Pyrophospha					
2	Relevant identified uses of t	Relevant identified uses of the substance or mixture and uses advised against:					
	Relevant identified uses:	For research use only, not for human or veterin	ary 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				
1	Emergency telephone numb						
	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				
	Classification of the Substa						
.1	Classification of the Substance or Mixture:						
	Acute Toxicity: Inhalation	, Category 3					
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate	, Category 3 gory 3					
	Acute Toxicity: Inhalation	, Category 3 gory 3					
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate	, Category 3 gory 3					
2	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate	, Category 3 gory 3 gory 3					
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox	, Category 3 gory 3 gory 3					
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	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements: GHS Signal Word: GHS Hazard Phrases:	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger					
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed.	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger					
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H311: Toxic in contact with	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger skin.					
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	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H311: Toxic in contact with H331: Toxic if inhaled. H370: Causes damage to o GHS Precaution Phrases: P260: Do not breathe {dust/	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger skin. rgans.					
	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements:	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger skin. rgans. /fume/gas/mist/vapors/spray}. ghly after handling.	on}.				
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	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements:	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger skin. rgans. /fume/gas/mist/vapors/spray}. ghly after handling. /es/protective clothing/eye protection/face protection D: Immediately call a POISON CENTER or doctor, ash with plenty of soap and water. emove victim to fresh air and keep at rest in a posi	/physician.				
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	Acute Toxicity: Inhalation Acute Toxicity: Oral, Cate Acute Toxicity: Skin, Cate Specific Target Organ Tox Label Elements:	, Category 3 gory 3 gory 3 kicity (single exposure), Category 1 Danger skin. rgans. /fume/gas/mist/vapors/spray}. ghly after handling. res/protective clothing/eye protection/face protection D: Immediately call a POISON CENTER or doctor, ash with plenty of soap and water. emove victim to fresh air and keep at rest in a posi I a POISON CENTER or doctor/physician. TER or doctor/physician.	/physician.				
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	CHIMICAL								
		Rinse mouth.							
	P361: Remove/Take off immediately all contaminated clothing. P363: Wash contaminated clothing before reuse.								
		Storage and Dispo		D : 1.1.4 (1)					
			for Storage and Section 13 fo	r Disposal informatio	on.				
2.3		se Human Health	Causes damage to organs.	the muceue membr		opiratory tract			
	Effects	and Symptoms:		Material may be irritating to the mucous membranes and upper respiratory tract. May cause eye, skin, or respiratory system irritation.					
			Toxic if inhaled, swallowed,						
						ot been thoroughly investigated.			
		Sec	tion 3. Compositior	n/Information	on Ingredie	ents			
CAS	#/	1	oonents (Chemical Name)/	Concentration	EC No./	GHS Classification			
RTEC	CS #	REACH Registra	tion No.		EC Index No.				
10832	21-05-7	5-Phospho-D-ribose	1-diphosphate (sodium salt)	100.0 %	NA	Acute Tox.(O) 3: H301			
NA					NA	Acute Tox.(D) 3: H311			
						Acute Tox.(I) 3: H331			
						STOT (SE) 1: H370			
				rot Aid Maga	ures				
			Section 4. Fi	rst Alu meas					
4.1	Descri	ption of First Aid	Section 4. Fi	ISt Alu Meas					
4.1	Descrij Measu	-	Section 4. Fi	TSI AIU Meas					
4.1	Measu	-				ive oxygen by trained personnel			
4.1	Measu	res:		eathing, give artifici		ive oxygen by trained personnel			
4.1	Measu In Case	res: e of Inhalation:	Remove to fresh air. If not br Get immediate medical atten	eathing, give artifici	al respiration or gi				
4.1	Measu In Case	res: e of Inhalation:	Remove to fresh air. If not br Get immediate medical atten	eathing, give artifici tion. soap and plenty of w	al respiration or gi vater for at least 1	5 minutes. Remove contaminate			
4.1	Measu In Case In Case	res: e of Inhalation:	Remove to fresh air. If not br Get immediate medical atten Immediately wash skin with s clothing. Get medical attentio Hold eyelids apart and flush	eathing, give artifici tion. soap and plenty of w on if symptoms occu eyes with plenty of v	al respiration or gi vater for at least 1 ir. Wash clothing b	5 minutes. Remove contaminate before reuse.			
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4.1	Measu In Case In Case In Case	res: e of Inhalation: e of Skin Contact:	Remove to fresh air. If not br Get immediate medical atten Immediately wash skin with s clothing. Get medical attentio Hold eyelids apart and flush and tested by medical person Wash out mouth with water p	eathing, give artifici tion. soap and plenty of w on if symptoms occu eyes with plenty of w nnel. provided person is c	al respiration or gi vater for at least 1 Ir. Wash clothing t water for at least 1 onscious. Never g	5 minutes. Remove contaminate before reuse. 15 minutes. Have eyes examine give anything by mouth to an			
4.1	Measu In Case In Case In Case	res: e of Inhalation: e of Skin Contact: e of Eye Contact:	Remove to fresh air. If not br Get immediate medical atten Immediately wash skin with s clothing. Get medical attentio Hold eyelids apart and flush and tested by medical person Wash out mouth with water p unconscious person. Get me	eathing, give artifici tion. soap and plenty of w on if symptoms occu eyes with plenty of w nnel. provided person is c	al respiration or gi vater for at least 1 Ir. Wash clothing t water for at least 1 onscious. Never g	15 minutes. Have eyes examine			
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Multi-region format

		Section 6. Ac	cidental Releas	se Measures			
Protective Precautions,Avoid raising and breathing dust, and provide adequate ventilation.Protective Equipment andAs conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirateEmergency Procedures:and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).							
Environmental Take steps to avoid release into the environment, if safe to do so. Precautions: Take steps to avoid release into the environment, if safe to do so.							
.3 Methods and Material For Contain spill and collect, as appropriate.					ocal regulations.		
-			Handling and	Storage			
Precautions To Be Taken Avoid breathing dust/fu			fume/gas/mist/vapours				
Precautions To Be TakenKeep container tightly closed.in Storing:Store in accordance with information listed on the product insert.							
Experie		tion 8. Exposu	re Controls/Pe	rsonal Protection			
	i	Namo	Britain EH40	Franco VI	Europe		
" 21-05-7	Partial Chemical Name 5-Phospho-D-ribose 1-diphosphate (sodium salt) Partial Chemical Name		No data.	No data.	No data.		
#			OSHA TWA	ACGIH TWA	Other Limits		
21-05-7	5-Phospho-D-ribose 1-diphosphate (sodium salt)		No data.	No data.	No data.		
Exposu	re Controls:		•		ł		
-	eering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to control air						
-							
•			pirator, as conditions w	varrant.			
ce Practices: Facilities storing or u Wash thoroughly after			ilizing this material sho	ould be equipped with an eye	wash and a safety showe		
	Protecti Emerge Environ Precaut Method Contain Up: Precaut in Hand Precaut in Storin Exposur # 21-05-7 # 21-05-7 Exposur Enginee (Ventila Person Eye Pro Protecti Other P Respira (Specify Work/H	Protective Equipment an Emergency Procedures: Environmental Precautions: Methods and Material Fo Containment and Cleanin Up: Precautions To Be Taker in Handling: Precautions To Be Taker in Handling: Precautions To Be Taker in Storing: <u>Sec</u> Exposure Parameters: # Partial Chemical 21-05-7 5-Phospho-D-ribo (sodium salt) # Partial Chemical 21-05-7 5-Phospho-D-ribo (sodium salt) Exposure Controls: Engineering Controls (Ventilation etc.): Personal protection equi Eye Protection: Protective Gloves: Other Protective Clothing Respiratory Equipment (Specify Type): Work/Hygienic/Maintenal	Protective Precautions, Protective Equipment and As conditions warrant and appropriate pers Take steps to avoid a Precautions:Methods and Material For Precautions:Contain spill and coll Contain spill and coll Containment and Cleaning Transfer to a chemic Up:MethodsMaterial For Contain spill and coll Containment and Cleaning Transfer to a chemic Up:Precautions To Be Taken In Handling:Avoid breathing dust/ Avoid prolonged or red Precautions To Be Taken Avoid prolonged or red Precautions To Be Taken Store in accordance or Store in accordance or <br< td=""><td>Protective Precautions, Protective Equipment and Emergency Procedures: and appropriate personal protection (rubber Environmental Take steps to avoid release into the environ Precautions: Methods and Material For Contain spill and collect, as appropriate. Containment and Cleaning Transfer to a chemical waste container for Up: Section 7. Handling and Up: Precautions To Be Taken Noid prolonged or repeated exposure. Precautions To Be Taken in Handling: Avoid prolonged or repeated exposure. Precautions To Be Taken in Storing: Store in accordance with information listed of Section 8. Exposure Controls/Pee Exposure Parameters: # # Partial Chemical Name (sodium salt) Britain EH40 21-05-7 5-Phospho-D-ribose 1-diphosphate (sodium salt) No data. # Partial Chemical Name (sodium salt) OSHA TWA 21-05-7 5-Phospho-D-ribose 1-diphosphate (sodium salt) No data. # Partial Chemical Name (sodium salt) No data. # Partial Chemical Name (sodium salt) No data. # Partial Chemical Name (sodium salt) Scentors. Exposure Controls: Engineering Controls Use process enclosures, local exhaust vent (Ventilation etc.): Ievels below recommended exposure limits. Personal protection equipment: Eye Protection: Safety glasses Protective Gloves: Compatible chemical-resistant gloves Other Protective Clothing: Lab coat Respiratory Equipment NIOSH approved respirator, as conditions w (Specify Type): Work/Hygienic/Maintenan Do not take in</td><td>Protective Equipment and As conditions warrant, wear a NIOSH approved self-contained breathing Emergency Procedures: and appropriate personal protection (rubber boots, safety goggles, and I Environmental Take steps to avoid release into the environment, if safe to do so. Precautions: Methods and Material For Methods and Material For Contain spill and collect, as appropriate. Containment and Cleaning Transfer to a chemical waste container for disposal in accordance with I Up: Section 7. Handling and Storage Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray. in Handling: Avoid prolonged or repeated exposure. 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 Exposure Parameters: # Partial Chemical Name Britain EH40 France VL 21-05-7 5-Phospho-D-ribose 1-diphosphate (sodium sait) No data. No data. 21-05-7 5-Phospho-D-ribose 1-diphosphate (sodium sait) No data. No data. Exposure Controls Engineering Controls Use process enclosures, local e</td></br<>	Protective Precautions, Protective Equipment and Emergency Procedures: and appropriate personal protection (rubber Environmental Take steps to avoid release into the environ Precautions: Methods and Material For Contain spill and collect, as appropriate. Containment and Cleaning Transfer to a chemical waste container for Up: Section 7. Handling and Up: Precautions To Be Taken Noid prolonged or repeated exposure. Precautions To Be Taken in Handling: Avoid prolonged or repeated exposure. 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	Se	ction 9. Physical and Chemical Properties
9.1	Information on Basic Physi	cal and Chemical Properties
	Physical States:	[]Gas []Liquid [X]Solid
	Appearance and Odor:	A crystalline solid
	Melting Point:	No data.
	Boiling Point:	No data.
	Flash Pt:	No data.
	Evaporation Rate:	No data.
	Flammability (solid, gas):	No data available.
	Explosive Limits:	LEL: No data. UEL: No data.
	Vapor Pressure (vs. Air or	mm No data.
	Hg): Venez Deneity (ve. Air – 4):	No data.
	Vapor Density (vs. Air = 1):	
	Specific Gravity (Water = 1): No data. No data.
	Solubility in Water: Solubility Notes:	~10 mg/ml in PBS (pH 7.2);
		\sim 10 mg/mm PBS (pH 7.2), No data.
	Autoignition Pt:	No data.
9.2	Other Information	
	Percent Volatile:	No data.
	Molecular Formula & Weig	
		Section 10. Stability and Reactivity
10.1	,	No data available.
10.2	-	Unstable [] Stable [X]
10.3		Stable if stored in accordance with information listed on the product insert.
	-	Will occur [] Will not occur [X]
10.4		No data available.
10.5	Incompatibility - Materials : To Avoid:	strong oxidizing agents
10.6	Hazardous	carbon dioxide
	Decomposition or	carbon monoxide
	Byproducts:	

Multi-region format



Revision: 07/07/2016

Multi-region format

			Section 11. Toxicol	ogical	nform	ation			
11.1 Information on The toxicological effects of this product have not been thoroughly studied.									
	Toxicolo	ogical Effects:							
CAS # Hazardous Com		Hazardous Com	ponents (Chemical Name)		NTP	IARC	ACGIH	OSHA	
1083	108321-05-7 5-Phospho		D-ribose 1-diphosphate (sodium salt)		n.a.	n.a.	n.a.	n.a.	
			Section 12. Ecolo	gical In	forma	tion			
12.1	Toxicity								
		Runoff from fire control or dilution water may cause pollution.							
12.2	Persiste	nce and	No data available.						
		adability:							
12.3		mulative	No data available.						
	Potentia								
12.4	Mobility		No data available.						
12.5			No data available.						
12.6	assessn Other ac	nent: dverse effects:	No data available.						
12.0						lione			
	\A/		Section 13. Dispos						
13.1	vvaste D	isposal Method:	-			-			
			Section 14. Trans	sport In	forma	tion			
14.1	LAND T	RANSPORT (US	DOT):						
D	OT Prope	r Shipping Name	Not dangerous goods.						
	OT Hazar								
	N/NA Nur								
14.1		-	ropean ADR/RID): Not dangerous goods.						
		hipping Name:							
_	N Numbe								
п 14.3		ANSPORT (ICAO/							
		Shipping Name:	Not dangerous goods.						
	tional Tra		Transport in accordance with lo	cal, state. a	ind federa	I regulations.			
	mation:	-1	-1 · · · · · · · · · · · · · · · · · · ·	, <u> </u>		- 3			
			Section 15. Regul	atorv Ir	forma	tion			
EPA S	SARA (Su	perfund Amendr	ents and Reauthorization Act of						
CAS	•	i	ponents (Chemical Name)	S. 302 (E		S. 304 RQ	S. 31	B (TRI)	
<u> </u>	21-05-7		ose 1-diphosphate (sodium salt)	No	-	No	No		
CAS	#	Hazardous Components (Chemical Name)		Other US EPA or State Lists					
	21-05-7		ose 1-diphosphate (sodium salt)						
		•		•					



Regulatory Information Statement:	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.
	Section 16. Other Information
Revision Date:	07/07/2016
Additional Information About	No data available.
This Product:	
Company Policy or Disclaimer:	DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.