

	Section 1 Id	entification of the Substance/Mixture and of th	e Company/I Indertaking			
.1			le company/ondertaking			
	Product Code:	21820				
1.2	Product Name:	bis-ANS (potassium salt)				
	Synonyms:	4,4'-bis(phenylamino)-[1,1'-binaphthalene]-5,5'	·			
		bis(1,8-anilinonaphthalenesulfonate)4; 4'-Diani	lino-1,1'-binaphthyl-5,5'-disulfonic Acid;			
	Relevant identified uses of the substance or mixture and uses advised against:					
	Relevant identified uses:	For research use only, not for human or vetering	hary use.			
	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 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 Identification	ation			
2.1	Classification of the Substa	nce or Mixture				
	Acute Toxicity: Inhalation					
	Acute Toxicity: Oral, Cate					
	Acute Toxicity: Skin, Cate					
	-					
	Skin Corrosion/Irritation, Category 2					
	Serious Eye Damage/Eye Irritation, Category 2					
	0 K T 10 T					
		icity (single exposure), Category 3				
2.2	Specific Target Organ Tox Label Elements:	icity (single exposure), Category 3				
2.2		icity (single exposure), Category 3				
2.2		icity (single exposure), Category 3				
2.2		icity (single exposure), Category 3				
2.2	Label Elements:					
2.2	Label Elements: GHS Signal Word:	icity (single exposure), Category 3 Warning				
2.2	Label Elements:	Warning				
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed.	Warning				
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases:	Warning th skin.				
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wi H315: Causes skin irritation	Warning				
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wir H315: Causes skin irritation H319: Causes serious eye i	Warning				
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wi H315: Causes skin irritation H319: Causes serious eye i H332: Harmful if inhaled.	Warning th skin. rritation.				
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wir H315: Causes skin irritation H319: Causes serious eye i H332: Harmful if inhaled. H335: May cause respirator	Warning th skin. rritation.				
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2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wir H315: Causes skin irritation H319: Causes serious eye i H332: Harmful if inhaled. H335: May cause respirator GHS Precaution Phrases: P261: Avoid breathing {dust P264: Wash {hands} thorous	Warning th skin. rritation. y irritation. /fume/gas/mist/vapors/spray}. ghly after handling.	on}.			
2.2	Label Elements: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wir H315: Causes skin irritation H319: Causes serious eye i H332: Harmful if inhaled. H335: May cause respirator GHS Precaution Phrases: P261: Avoid breathing {dust P264: Wash {hands} thoroug P280: Wear {protective glov	Warning th skin. rritation. y irritation. /fume/gas/mist/vapors/spray}.	on}.			
2.2	Label Elements: GHS Signal Word: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wir H315: Causes skin irritation H319: Causes serious eye i H332: Harmful if inhaled. H335: May cause respirator GHS Precaution Phrases: P261: Avoid breathing {dust P264: Wash {hands} thorous P280: Wear {protective glow GHS Response Phrases:	Warning th skin. rritation. y irritation. /fume/gas/mist/vapors/spray}. ghly after handling. es/protective clothing/eye protection/face protectio				
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2.2	Label Elements: GHS Signal Word: GHS Signal Word: GHS Hazard Phrases: H302: Harmful if swallowed. H312: Harmful in contact wir H315: Causes skin irritation H319: Causes serious eye i H332: Harmful if inhaled. H335: May cause respirator GHS Precaution Phrases: P261: Avoid breathing {dust P264: Wash {hands} thoroug P280: Wear {protective glow GHS Response Phrases: P301+312: IF SWALLOWER P302+352: IF ON SKIN: Wa	Warning th skin. rritation. y irritation. /fume/gas/mist/vapors/spray}. ghly after handling. es/protective clothing/eye protection/face protectio	cian if you feel unwell.			



Revision: 04/09/2017

	to do. Continue rinsing.				
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 cont	aminated clothing and wash it before reuse.			
	GHS Storage and Dispo	osal Phrases:			
	Please refer to section 7 for storage and section 13 for disposal information.				
2.3	Adverse Human Health	Causes serious eye irritation.			
	Effects and Symptoms:	Causes skin irritation.			
		Harmful if inhaled, swallowed, or in contact with 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
65664-81-5 NA	[1,1'-Binaphthalene]-5,5'-disulfonic acid, 4,4'-bis(phenylamino)-, potassium salt (1:2)	100.0 %	NA NA	Acute Tox.(O) 4: H302 Acute Tox.(D) 4: H312 Skin Corr. 2: H315 Eye Damage 2: H319 Acute Tox.(I) 4: H332 STOT (SE) 3: H335

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.	



Multi-region format

Media: Use water spray to cool fire-exposed containers. Unsultable Extinguishing A solid water stream may be inefficient. Media: Fiammable Properties andNo data available. Hazards: No data available. Flammable Properties andNo data available. Hazards: No data. UEL: No data. Explosive Limits: LEL: No data. Jerrore equivalent), and full protective gear to prevent contact with skin and eyes. Section 6. Accidental Release Measures Section 6. Accidental Release Measures 1 Protective Precautions, Avoid raising and breathing dust, and provide adequate ventilation. Protective Equipment and A conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator temorgency Procedures: and appropriate personal protociton (tubber boots, safety goggles, and heavy rubber gloves). 2 Environmental Take steps to avoid release into the environment, if safe to do so. Precautions: Section 7. Handling and Storage 1 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray. in Handling: Avoid prolonged or repeated exposure. 2 Precoutions To Be Taken Keep container tightly closed. in storing: Store in accordance with information listed on the product insert. 2							
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Precautions: .3 Methods and Material For Contain spill and collect, as appropriate. Containment and CleaningTransfer to a chemical waste container for disposal in accordance with local regulations. Up: Section 7. Handling and Storage .1 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray. in Handling: Avoid prolonged or repeated exposure. .2 Precautions To Be Taken Keep container tightly closed. in Storing: Store in accordance with information listed on the product insert. .1 Exposure Parameters: .2 Exposure Parameters: .2 Exposure Controls .1 Engineering Controls (Ventilation etc.): levels below recommended exposure limits. .2.1 Engineering Controls (Ventilation etc.): levels below recommended exposure limits. .2.2 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 warrant. (Specify Type): Work/Hygienic/Maintenan Do not take internally. ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety showe Wash thoroughly after handling.		Emergency Procedures:	and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).				
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Containment and Cleaning Transfer to a chemical waste container for disposal in accordance with local regulations. Up: Section 7. Handling and Storage 1 Precautions To Be Taken Avoid breathing dust/fume/gas/mist/vapours/spray. in Handling: Avoid prolonged or repeated exposure. 2 Precautions To Be Taken Keep container tightly closed. in Storing: Store in accordance with information listed on the product insert. 2 Precautions To Be Taken Keep container tightly closed. in Storing: Store in accordance with information listed on the product insert. 3 Exposure Parameters: 2 Exposure Controls: 2.1 Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborn (Ventilation etc.): levels below recommended exposure limits. 2.2 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 warrant. (Specify Type): Work/Hygienic/Maintenan Do not take internally. ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety showed Wash thoroughly after handling.		Precautions:					
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Eye Protection:Safety glassesProtective Gloves:Compatible chemical-resistant glovesOther Protective Clothing:Lab coatRespiratory EquipmentNIOSH approved respirator, as conditions warrant.(Specify Type):Do not take internally.Work/Hygienic/MaintenanDo not take internally.ce Practices:Facilities storing or utilizing this material should be equipped with an eyewash and a safety showed Wash thoroughly after handling.		(Ventilation etc.):	levels below recommended exposure limits.				
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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 and a safety showed Wash thoroughly after handling.		Eye Protection:	Safety glasses				
Respiratory EquipmentNIOSH approved respirator, as conditions warrant.(Specify Type):Do not take internally.Work/Hygienic/MaintenanDo not take internally.ce Practices:Facilities storing or utilizing this material should be equipped with an eyewash and a safety showed Wash thoroughly after handling.		Protective Gloves:	Compatible chemical-resistant gloves				
(Specify Type): Work/Hygienic/Maintenan Do not take internally. ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety showed Wash thoroughly after handling.		Other Protective Clothing	:Lab coat				
Work/Hygienic/MaintenanDo not take internally.ce Practices:Facilities storing or utilizing this material should be equipped with an eyewash and a safety showed Wash thoroughly after handling.		Respiratory Equipment	NIOSH approved respirator, as conditions warrant.				
ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety showe Wash thoroughly after handling.		(Specify Type):					
Wash thoroughly after handling.		Work/Hygienic/Maintenan					
		ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash and a safety showe				
No data available.							
			No data available.				



Multi-region format

9.1		ection 9. Physical and Chemical Properties			
	Information on Basic Physical and Chemical Properties				
	Physical States:	[]Gas []Liquid [X]Solid			
	Appearance and Odor:	A crystalline 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	mm No data.			
	Hg):				
	Vapor Density (vs. Air = 1):				
	Specific Gravity (Water = 1				
	Solubility in Water:	No data.			
	Solubility Notes:	~5 mg/ml in PBS (pH 7.2); ~30 mg/ml in DMSO & DMF;			
	Octanol/Water Partition	No data.			
	Coefficient:				
	Autoignition Pt:	No data.			
	Decomposition Temperatu	ire: No data.			
	Viscosity:	No data.			
9.2	Other Information				
	Percent Volatile:	No data.			
	Molecular Formula & Weig	ht: C32H22N2O6S2 • 2K 672.9			
		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.			
	Incompatibility - Materials	strong oxidizing agents			
10.5	To Avoid:				
10.5					
	Hazardous	carbon dioxide			
		carbon dioxide carbon monoxide			
	Decomposition or	carbon monoxide			
	Decomposition or Byproducts:				
10.5 10.6	Decomposition or Byproducts:	carbon monoxide nitrogen oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			
	Decomposition or Byproducts:	carbon monoxide nitrogen oxides potassium oxides			



Revision: 04/09/2017

Information on The toxicological effects of this product have not been thoroughly studied.							
		ogical Effects:					
65664-81-5 [1,1'-Binaphthale			ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA
		1	ne]-5,5'-disulfonic acid, nino)-, potassium salt (1:2)	n.a.	n.a.	n.a.	n.a.
			Section 12. Ecol	ogical Informa	ation		
12.1	Toxicity	-	Avoid release into the environment				
	_		Runoff from fire control or dilut	ion water may cause	pollution.		
12.2		ence and	No data available.				
12.3	Degrada	imulative	No data available.				
2.3	Potentia		No dala avallable.				
12.4	Mobility		No data available.				
2.5	-		No data available.				
	assessr	ment:					
12.6	Other a	dverse effects:	No data available.				
			Section 13. Dispo	sal Considera	ations		
13.1	Waste D	Disposal Method:	Dispose in accordance with loo	cal, state, and federa	l regulations.		
			Section 14. Trar	nsport Informa	ation		
14.1	LAND 1	RANSPORT (US I	DOT):				
D	OT Prope	er Shipping Name:	Not dangerous goods.				
D	OT Hazar	d Class:					
U	N/NA Nur						
14.1		RANSPORT (Euro					
		hipping Name:	Not dangerous goods.				
-	N Numbe azard Cla						
 14.3		ANSPORT (ICAO/I	ΔΤΔ).				
		Shipping Name:	Not dangerous goods.				
	ional Tra		Transport in accordance with	local, state, and fede	ral regulations.		
	nation:	·			-		
			Section 15. Regu	ulatory Inform	ation		
EPA	SARA (Sı	perfund Amendm	ents and Reauthorization Act	,			
CAS			ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ		3 (TRI)
6566	64-81-5	1	ne]-5,5'-disulfonic acid, nino)-, potassium salt (1:2)	No	No	No	
CAS	¥	Hazardous Com	ponents (Chemical Name)	Other US EPA o	r State Lists		
	64-81-5	[1,1'-Binaphthale	ne]-5,5'-disulfonic acid,	CAA HAP,ODC:	No; CWA NPDE	S: No; TSCA	: No; CA

Multi-region format



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Regulatory Information This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) Statement: No.1272/2008. Section 16. Other Information				
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.			