

	accordin	g to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/8	30 and US OSHA HCS 2015	
	Section 1. I	dentification of the Substance/Mixture and of t	he Company/Undertaking	
1	Product Code:	700624		
	Product Name:	Urea Ammonia Detector		
2	Relevant identified uses of	f the substance or mixture and uses advised ag	jainst:	
	Relevant identified uses:	For research use only, not for human or veteri	nary use.	
3	Details of the Supplier of t	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	
4	Emergency telephone num			
	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	
I	Classification of the Subst	ance or Mixture:		
	Acute Toxicity: Oral, Cat	egory 3		
	Skin Corrosion/Irritation	, Category 1B		
		, • • • • • • • • • • • • • • • • • • •		
		e Irritation Category 2A		
		e Irritation, Category 2A		
	Skin Sensitization, Cate	gory 1		
	Skin Sensitization, Cate Specific Target Organ Te	gory 1 oxicity (single exposure), Category 3		
	Skin Sensitization, Cate	gory 1 oxicity (single exposure), Category 3		
2	Skin Sensitization, Cate Specific Target Organ Te	gory 1 oxicity (single exposure), Category 3		
.2	Skin Sensitization, Cate Specific Target Organ To Aquatic Toxicity (Chroni	gory 1 oxicity (single exposure), Category 3		
2	Skin Sensitization, Cate Specific Target Organ To Aquatic Toxicity (Chroni	gory 1 oxicity (single exposure), Category 3		
2	Skin Sensitization, Cate Specific Target Organ To Aquatic Toxicity (Chroni	gory 1 oxicity (single exposure), Category 3		
2	Skin Sensitization, Cate Specific Target Organ To Aquatic Toxicity (Chroni	gory 1 oxicity (single exposure), Category 3		
2	Skin Sensitization, Cate Specific Target Organ To Aquatic Toxicity (Chroni	gory 1 oxicity (single exposure), Category 3		
2	Skin Sensitization, Category Specific Target Organ To Aquatic Toxicity (Chronic Label Elements:	gory 1 oxicity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Category Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed.	gory 1 oxicity (single exposure), Category 3 ic), Category 1 Danger		
2	Skin Sensitization, Category Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin	gory 1 oxicity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Category Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes servere skin H319: Causes serious eye	gory 1 oxicity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Category Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes serious eye H317: May cause an allegory	gory 1 oxicity (single exposure), Category 3 c), Category 1		
2	Skin Sensitization, Category Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes servere skin H319: Causes serious eye	gory 1 oxicity (single exposure), Category 3 c), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an allery H335: May cause respirate	gory 1 oxicity (single exposure), Category 3 c), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an allery H335: May cause respirate	gory 1 oxicity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an aller H335: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thore	gory 1 pricity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an aller H319: Causes serious eye H317: May cause respirate H310: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dust	gory 1 pricity (single exposure), Category 3 c), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an allero H317: May cause an allero H315: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dustice Handa Anda (dust)	gory 1 pricity (single exposure), Category 3 ic), Category 1	ion}.	
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes servere skin H319: Causes serious even H317: May cause an aller H319: Causes serious even H317: May cause an aller H319: Cause serious even H317: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dus P280: Wear {protective gla P261: Avoid breathing {dus	gory 1 pricity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes servere skin H319: Causes serious even H317: May cause an aller H319: Causes serious even H317: May cause an aller H319: Cause serious even H317: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dus P280: Wear {protective gla P261: Avoid breathing {dus	gory 1 pricity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an aller H335: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dus P280: Wear {protective gla P261: Avoid breathing {du P272: Contaminated work	gory 1 pricity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an aller H335: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dus P280: Wear {protective gla P261: Avoid breathing {du P272: Contaminated work	gory 1 pricity (single exposure), Category 3 ic), Category 1		
2	Skin Sensitization, Categoria Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an aller H335: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dus P280: Wear {protective gla P261: Avoid breathing {du P272: Contaminated work P362+364: Take off conta	gory 1 pricity (single exposure), Category 3 c), Category 1		
2	Skin Sensitization, Categors Specific Target Organ To Aquatic Toxicity (Chronic Label Elements: GHS Signal Word: GHS Hazard Phrases: H301: Toxic if swallowed. H314: Causes severe skin H319: Causes serious eye H317: May cause an aller H335: May cause respirate H410: Very toxic to aquati GHS Precautionary Phra P264: Wash {hands} thoro P260: Do not breathe {dus P280: Wear {protective gla P261: Avoid breathing {du P272: Contaminated work P362+364: Take off conta P273: Avoid release to the GHS Response Phrases	gory 1 pricity (single exposure), Category 3 c), Category 1	e.	



			KIN (or hair): Remove/take off	immediately all conta	minated clothing	. Rinse skin with		
		shower. Wash contaminate	d clothing before reuse.					
			-	er for several minutes	. Remove contac	t lenses, if present and easy		
	P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.							
		-	LOWED: Rinse mouth. Do NC	T induce vomiting.				
			Remove victim to fresh air and	-	ition comfortable	for breathing.		
			{POISON CENTER/doctor/}.			ç		
		-	persists, get medical advice/a					
	P302+	352: IF ON SKIN: \	Wash with plenty of soap and v	vater.				
	P333+	313: If skin irritatio	n or rash occurs, seek medical	advice/attention.				
	P312:	Call a {POISON CI	ENTER/doctor/} if you feel un	well.				
	P391:	Collect spillage.						
	GHS S	Storage and Dispo	sal Phrases:					
	Please	e refer to Section 7	for Storage and Section 13 for	Disposal information				
2.3	Adverse	e Human Health	Causes serious eye irritation.					
	Effects	and Symptoms:	Causes severe skin burns an	d eye damage.				
			Material may be irritating to the	ne mucous membran	es and upper res	piratory tract.		
			May be harmful by inhalation	, ingestion, or skin at	sorption.			
			May cause an allergic skin re	action.				
			May cause respiratory irritation	on.				
			Toxic if swallowed.					
			Very toxic to aquatic life with	long lasting effects.				
			To the best of our knowledge	, the toxicological pro	operties have not	been thoroughly investigated.		
		Coot		/Information a	n Ingradia	ata		
		Seci	tion 3. Composition	/mormation c	n ingreaiei	แร		
CAS	#/		•		EC No./			
CAS RTEC			oonents (Chemical Name)/	Concentration		GHS Classification		
		Hazardous Comp	oonents (Chemical Name)/		EC No./			
RTEC		Hazardous Comp REACH Registra	oonents (Chemical Name)/	Concentration	EC No./ EC Index No.	GHS Classification		
RTEC NA		Hazardous Comp REACH Registra	oonents (Chemical Name)/	Concentration	EC No./ EC Index No.	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319		
RTEC NA		Hazardous Comp REACH Registra	oonents (Chemical Name)/	Concentration	EC No./ EC Index No.	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317		
RTEC NA		Hazardous Comp REACH Registra	oonents (Chemical Name)/	Concentration	EC No./ EC Index No.	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336		
RTEC NA		Hazardous Comp REACH Registra	bonents (Chemical Name)/ tion No.	Concentration	EC No./ EC Index No. NA NA	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317		
RTEC NA		Hazardous Comp REACH Registra	oonents (Chemical Name)/	Concentration	EC No./ EC Index No. NA NA	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336		
RTEC NA	<u>25 #</u>	Hazardous Comp REACH Registra	bonents (Chemical Name)/ tion No.	Concentration	EC No./ EC Index No. NA NA	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336		
RTEC NA NA	<u>25 #</u>	Hazardous Comp REACH Registrat (Trade Secret)NA	bonents (Chemical Name)/ tion No.	Concentration	EC No./ EC Index No. NA NA	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336		
RTEC NA NA	CS # Descrip Measur	Hazardous Comp REACH Registrat (Trade Secret)NA	bonents (Chemical Name)/ tion No. Section 4. Fil	Concentration 100.0 % rst Aid Measu eathing, give artificial	EC No./ EC Index No. NA NA	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336		
RTEC NA NA	CS # Descrip Measur In Case	Hazardous Comp REACH Registrat (Trade Secret)NA	Donents (Chemical Name)/ tion No. Section 4. Fin Remove to fresh air. If not bre Get immediate medical attent	Concentration 100.0 % St Aid Measu eathing, give artificial ion. oap and plenty of wa	EC No./ EC Index No. NA NA TES respiration or giv ter for at least 15	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336 Aquatic (C) 1: H410 e oxygen by trained personnel. minutes. Remove contaminated		
RTEC NA NA	CS # Descrip Measur In Case In Case	Hazardous Comp REACH Registrat (Trade Secret)NA tion of First Aid es: of Inhalation:	Donents (Chemical Name)/ tion No. Section 4. Fin Remove to fresh air. If not bre Get immediate medical attent Immediately wash skin with s clothing. Get medical attention	Concentration 100.0 % rst Aid Measu sathing, give artificial ion. pap and plenty of wa n if symptoms occur. eyes with plenty of wa	EC No./ EC Index No. NA NA NA respiration or giv ter for at least 15 Wash clothing be	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336 Aquatic (C) 1: H410 e oxygen by trained personnel. minutes. Remove contaminated		
RTEC NA NA	CS # Descrip Measur In Case In Case In Case	Hazardous Comp REACH Registrat (Trade Secret)NA tion of First Aid es: of Inhalation: of Skin Contact:	Donents (Chemical Name)/ tion No. Section 4. Fit Remove to fresh air. If not bre Get immediate medical attent Immediately wash skin with so clothing. Get medical attention Hold eyelids apart and flush e	Concentration 100.0 % rst Aid Measu eathing, give artificial ion. oap and plenty of wa n if symptoms occur. eyes with plenty of wa nel. rovided person is cor	EC No./ EC Index No. NA NA NA respiration or giv ter for at least 15 Wash clothing be ater for at least 15 wash clothing be	GHS Classification Acute Tox.(O) 3: H301 Skin Corr. 1B: H314 Eye Damage 2A: H319 Skin Sens. 1: H317 STOT (SE) 3: H335 H336 Aquatic (C) 1: H410 e oxygen by trained personnel. minutes. Remove contaminated efore reuse. 5 minutes. Have eyes examined we anything by mouth to an		

Multi-region format



Multi-region format

Supersedes Revision: 08/04/2014

		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 and	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.
		Section 6. Accidental Release Measures
6.1	Protective Precautions,	Avoid raising and breathing dust, 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 Cleanin	${f g}$ 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	-	Keep container tightly closed.
	in Storing:	Store in accordance with information listed on the product insert.
	Soot	ion 9 Exposure Controle/Deregnal Protection
3.1	Exposure Parameters:	ion 8. Exposure Controls/Personal Protection
3.2	Exposure Controls:	
8.2.1	Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborn
5.2.1	(Ventilation etc.):	levels below recommended exposure limits.
3.2.2	Personal protection equip	
	Eye Protection:	Safety glasses
	Protective Gloves:	Compatible chemical-resistant gloves
	Other Protective Clothing	
	-	
	Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
	Work/Hygienic/Maintenan	Do not take internally.
	ce Practices:	Facilities storing or utilizing this material should be equipped with an eyewash and a safety show
		Wash thoroughly after handling.
		No data available.



	Section	on 9. Physical and Chemical Properties
.1	Information on Basic Physical a	
	Physical States:	[]Gas []Liquid [X]Solid
	Appearance and Odor:	A lyophilized powder
	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):	No data.
	Specific Gravity (Water = 1):	No data.
	Solubility in Water:	No data.
	Octanol/Water Partition	No data.
	Coefficient:	
	Autoignition Pt:	No data.
	Decomposition Temperature:	No data.
	Viscosity:	No data.
.2	Other Information	
	Percent Volatile:	No data.
		Section 10. Stability and Reactivity
0.1		ata available.
0.2		able [] Stable [X]
0.3	-	le if stored in accordance with information listed on the product insert.
		ccur [] Will not occur [X]
0.4		ata available.
0.5	Incompatibility - Materials No d	
0.5	To Avoid:	
0.6		ata available.
0.0	Decomposition or	
	Byproducts:	
	Byproducts.	



			Section 1	1. Toxicolog	ical Informa	ation			
11.1	Informat	tion on	The toxicological	effects of this prod	uct have not beer	n thoroughly st	udied.		
	Toxicolo	ogical Effects:							
CAS	#	Hazardous Com	ponents (Chemic	al Name)	NTP	IARC	ACGIH	OSHA	
NA (Trade Secret)				n.a.	n.a.	n.a.	n.a.		
		•	Section	12. Ecologio	cal Informat	ion	•	•	
12.1 Toxicity:			Avoid release into	o the environment.					
			Runoff from fire control or dilution water may cause pollution.						
12.2	12.2 Persistence and		No data available						
	Degrada	ability:							
12.3 Bioaccumulative		No data available							
	Potentia								
12.4	12.4 Mobility in Soil:		No data available						
12.5	12.5 Results of PBT and vPvB assessment:		No data available	e .					
12.6	Other ac	dverse effects:	No data available	2.					
			Section 1	3. Disposal	Considerat	ions			
13.1	Waste D	isposal Method:	Dispose in accord	dance with local, st	ate, and federal re	egulations.			
			Section	14. Transpo	ort Informat	ion			
14.1	LAND T	RANSPORT (US I	DOT):						
D	OT Prope	r Shipping Name:	Corrosive so	lids, toxic, n.o.s. (o	-Phthalaldehyde)				
	OT Hazaro		8 (6.1)	CORROSIVE					
U	N/NA Num	nber:	2923		Packing Grou	p:	II		
			CORROSIVE 8	POISON 6					
14.1	LAND T	RANSPORT (Euro	opean ADR/RID):						
A	DR/RID SI	hipping Name:	Corrosive so	lids, toxic, n.o.s. (c	-Phthalaldehyde)				
_	UN Number:		2923		Packing Grou	p:	II		
	azard Clas		. ,	RROSIVE, POISO	N				
14.3		ANSPORT (ICAO/I	-						
		Shipping Name:		lids, toxic, n.o.s. (c					
	UN Number:		2923		Packing Grou	•	 	• `	
	azard Clas			RROSIVE, POISON			8(6.1	1)	
	tional Trai mation:	nsport	Transport in acco	ordance with local,	state, and rederal	regulations.			



		Section 15. Regu	liatory inform	ation			
EPA SARA (Sı	perfund Amendm	nents and Reauthorization Act	of 1986) Lists				
CAS # Hazardous Con		ponents (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)		
NA	(Trade Secret)		No	No	No		
CAS #	Hazardous Com	ponents (Chemical Name)	Other US EPA o	r State Lists			
NA	(Trade Secret)		CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No				
Regulatory Info	ormation	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.					
		Section 16. Ot	her Information	on			
Revision Date:		10/28/2019					
Additional Info	rmation About	No data available.					
		currently available to us. Howe express or implied, with respec- use. Users should make their their particular purposes.	ct to such informatior	n, and we assume r	no liability resulting from its		