# MATERIAL SAFETY DATA SHEET .gamma.-CEHC AChE Tracer

Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

Printed: 09/10/2008 Revision: 09/08/2008

Date Created: 09/08/2008

1. Pr	oduct and	Company lo	dentificatio	n
Product Code:	10011273	. ,		
Product Name:	.gammaCEHC A	AChE Tracer		
Manufacturer Information	0			
Company Name:	Cayman Chemica	l Company		
Emergency Contact:	Cayman Chemica		(800)364-9897	
Information:	Cayman Chemica	l Company	(734)971-3335	
2. Con	nposition/Ir	formation o	n Ingredie	nts
Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV
1gammaCEHC AChE Tracer	NA	100.0 %	No data.	No data.
	3. Hazaı	ds Identifica	ation	
Emergency Overview:	No data available			
Route(s) of Entry:	Inhalation? Yes		s? Yes Ingestic	n? Yes Other: Injection
		-	-	d upper respiratory tract.
	-	y inhalation, ingesti		
	•	kin, or respiratory sy	· •	
	• •			been fully evaluated.
Signs and Symptoms Of Exposure:	No data available		r huve not	· · · · · · · · · · · · · · · · · · ·
		Aid Measu	roc	
Emergency and First Aid Procedures:				ficial respiration or give oxygen by tra
		mediate medical att		
				on is conscious. Never give anything t
			medical attention.	Do NOT induce vomiting unless direct
	to do so by medic	-	lide enert and flue	h arras with mlanty of water After initi
				h eyes with plenty of water. After initiating for at least 20 minutes. Have eyes
		ted by medical perso		ing for at least 20 minutes. Have eyes
				p and plenty of water. Remove
		•		ms occur. Wash clothing before reuse.
		<u> </u>		ins occur. Wash clothing before reuse.
Flash Pt:		ghting Meas	50163	
	No data. LEL: No data.		HEL. No data	
Explosive Limits:			UEL: No data.	prossure domand (MCHA AHOCH
Fire Fighting Instructions:	-			pressure-demand (MSHA/NIOSH vent contact with skin and eyes.
Flammable Properties and Herordes	No data available	•	ecuve gear to prev	ent contact with skin and eyes.
Flammable Properties and Hazards:		-		
Extinguishing Media:			oxide, water, or di	y chemical spray when fighting fires
Unsuitable Extinguishing Media:	involving this ma			
	No data available		-	
6.	Accidenta	I Release M	leasures	
Steps To Be Taken In Case Material Is				ng apparatus and appropriate personal
Released Or Spilled:	-	r boots, safety goggl	-	
		o up material and pla	ice in disposal cor	tainer.
	A i d i d			
	Avoid raising dus			proughly with water.

# MATERIAL SAFETY DATA SHEET .gamma.-CEHC AChE Tracer

	7. Handling and Storage					
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation					
	Wash thoroughly after handling.					
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).					
	Avoid contact with eyes, skin, and clothing.					
	Avoid prolonged or repeated exposure.					
	Do not reuse this container.					
	Use with adequate ventilation.					
Precautions To Be Taken in Storing:	Wash thoroughly after handling. Store at correct temperature.					
ç	posure Controls/Personal Protection					
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety					
Label Information:	shower in work area Vent Hood					
Respiratory Equipment (Specify Type):	No data available.					
Eye Protection:	Safety glasses					
Protective Gloves:	Latex disposable gloves					
Other Protective Clothing:	Lab coat					
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborn					
	levels below recommended exposure limits.					
Work/Hygienic/Maintenance Practices:	Do not take internally.					
	Facilities storing or utilizing this material should be equipped with an eyewash facility and a					
	safety shower.					
	Wash thoroughly after handling.					
9.	Physical and Chemical Properties					
Physical States:	[] Gas [] Liquid [X] Solid					
Melting Point:	No data.					
Boiling Point:	No data.					
Autoignition Pt:	No data.					
Flash Pt:	No data.					
Explosive Limits:	LEL: No data. UEL: No data.					
Specific Gravity (Water = 1):	No data.					
Vapor Pressure (vs. Air or mm Hg):	No data.					
Vapor Density (vs. Air = 1):	No data.					
Evaporation Rate (vs Butyl Acetate=1):	No data.					
Solubility in Water:	No data.					
Percent Volatile:	No data.					
Corrosion Rate:	No data.					
pH:	No data.					
Appearance and Odor:	A lyophilized powder					
	10. Stability and Reactivity					
Stability:	Unstable [ ] Stable [ X ]					
Conditions To Avoid - Instability:	No data available.					
Incompatibility - Materials To Avoid:	No data available.					
Hazardous Decomposition Or Byproducts:	No data available.					
Hazardous Polymerization:	Will occur [ ]   Will not occur [ X ]					
Conditions To Avoid - Hazardous	No data available.					
Polymerization:						

#### MATERIAL SAFETY DATA SHEET .gamma.-CEHC AChE Tracer

	11. Toxico	logical Infor	mation		
:	The toxicological effects of this compound have not been thoroughly studied.				
Carcinogenicity/Other Information:	No data available	e.			
Carcinogenicity:	NTP? No IA	ARC Monographs?	No OSHA Regulat	ted? No	
	12. Ecolo	gical Inforn	nation		
:	Runoff from fire	control or dilution	water may cause pollut	ion.	
	13. Dispos	sal Conside	rations		
Waste Disposal Method:	Dispose in accord	dance with local, sta	ate and federal regulation	ons.	
	14. Trans	sport Inform	nation		
LAND TRANSPORT (US DOT)		-			
DOT Proper Shipping Name	No data available	e.			
Additional Transport Information:	Transport in accordance with local, state, and federal regulations.				
	15. Regul	latory Inforr	nation		
US EPA SARA Title III	<u>_</u>				
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1gammaCEHC AChE Tracer	NA	No	No	No	No
US EPA CAA, CWA, TSCA					
Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1gammaCEHC AChE Tracer	NA	No	No	No	No
	16. Oth	ner Informat	tion		
Company Policy or Disclaimer					
For research use only, not for human or vet	erinary clinical use.				

#### MATERIAL SAFETY DATA SHEET .gamma.-CEHC EIA Antiserum

Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

Printed: 09/10/2008 Revision: 09/08/2008

Date Created: 09/08/2008

1. Pr	oduct and	Company lo	pentificatio	n
Product Code:	10011274			
Product Name:	.gammaCEHC I	EIA Antiserum		
Manufacturer Information				
Company Name:	Cayman Chemica	al Company		
Emergency Contact:	Cayman Chemica	al Company	(800)364-9897	
Information:	Cayman Chemica	al Company	(734)971-3335	
2. Con	nposition/Ir	nformation c	on Ingredie	nts
Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV
1gammaCEHC EIA Antiserum	NA	100.0 %	No data.	No data.
	3. Hazai	rds Identific	ation	
Emergency Overview:	No data available			
	Inhalation? Yes	Skin? Yes Eye	s? Yes Ingestio	on? Yes Other: Injection
		5	-	d upper respiratory tract.
		by inhalation, ingest		
	-	kin, or respiratory sy	-	
				been fully evaluated.
	No data available		1	2
	4 Firet	Aid Measu	roc	
				ficial respiration or give oxygen by train
	-	mediate medical att		
				son is conscious. Never give anything by
			medical attention	Do NOT induce vomiting unless direct
	to do so by medic	-		
			-	h eyes with plenty of water. After initial
				ing for at least 20 minutes. Have eyes
		ted by medical perso		
		-		p and plenty of water. Remove
	contaminated clot	thing. Get medical a	ittention if sympto	ms occur. Wash clothing before reuse.
	5. Fire Fi	ghting Mea	sures	
	No data.			
•	LEL: No data.		UEL: No data.	
	-			pressure-demand (MSHA/NIOSH
	approved or equiv	valent), and full prot	tective gear to prev	vent contact with skin and eyes.
Flammable Properties and Hazards:	No data available			
Extinguishing Media:	Use alcohol-resis	tant foam, carbon di	oxide, water, or d	ry chemical spray when fighting fires
	involving this ma	terial.		
Unsuitable Extinguishing Media:	No data available			
6.	Accidenta	I Release M	leasures	
				ing apparatus and appropriate personal
-		r boots, safety gogg		
	-		-	-
	Vacuum or sweet	o up material and pla	ace in disposal cor	itamer.
	Avoid raising dus	o up material and pla st.	ace in disposal cor	italiel.

# MATERIAL SAFETY DATA SHEET .gamma.-CEHC EIA Antiserum

	7. Handling and Storage					
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilatio					
Propautions To Po Takon in Handling.	Wash thoroughly after handling.					
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).					
	Avoid contact with eyes, skin, and clothing.					
	Avoid prolonged or repeated exposure. Do not reuse this container.					
	Use with adequate ventilation.					
	Wash thoroughly after handling.					
Precautions To Be Taken in Storing:	Store at correct temperature.					
8. Ex	posure Controls/Personal Protection					
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety					
Label Information:	shower in work area Vent Hood					
Respiratory Equipment (Specify Type):	No data available.					
Eye Protection:	Safety glasses					
Protective Gloves:	Latex disposable gloves					
Other Protective Clothing:	Lab coat					
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborn					
	levels below recommended exposure limits.					
Work/Hygienic/Maintenance Practices:	Do not take internally.					
	Facilities storing or utilizing this material should be equipped with an eyewash facility ar					
	safety shower.					
	Wash thoroughly after handling.					
9.	Physical and Chemical Properties					
Physical States:	[]Gas []Liquid [X]Solid					
Melting Point:	No data.					
Boiling Point:	No data.					
Autoignition Pt:	No data.					
Flash Pt:	No data.					
Explosive Limits:	LEL: No data. UEL: No data.					
Specific Gravity (Water = 1):	No data.					
Vapor Pressure (vs. Air or mm Hg):	No data.					
Vapor Density (vs. Air = 1):	No data.					
Evaporation Rate (vs Butyl Acetate=1):	No data.					
Solubility in Water:	No data.					
Percent Volatile:	No data.					
Corrosion Rate:	No data.					
pH:	No data.					
Appearance and Odor:	A lyophilized powder					
	10. Stability and Reactivity					
Stability:	Unstable [ ] Stable [ X ]					
Conditions To Avoid - Instability:	No data available.					
Incompatibility - Materials To Avoid:	No data available.					
Hazardous Decomposition Or Byproducts:	No data available.					
Hazardous Polymerization:	Will occur []   Will not occur [X]					
Conditions To Avoid - Hazardous	No data available.					
Polymerization:						

# MATERIAL SAFETY DATA SHEET .gamma.-CEHC EIA Antiserum

	11. Toxico	logical Infor	mation		
:	The toxicological	l effects of this com	pound have not been th	oroughly studied.	
Carcinogenicity/Other Information:	No data available.				
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No				
	12. Ecolo	gical Inform	nation		
:	Runoff from fire	control or dilution	water may cause polluti	on.	
	13. Dispos	al Conside	rations		
Waste Disposal Method:	Dispose in accord	lance with local, sta	ate and federal regulation	ons.	
	14. Trans	sport Inform	nation		
LAND TRANSPORT (US DOT)		-			
DOT Proper Shipping Name	No data available				
Additional Transport Information:	Transport in accordance with local, state, and federal regulations.				
	15. Regul	latory Inform	nation		
US EPA SARA Title III					
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1gammaCEHC EIA Antiserum	NA	No	No	No	No
US EPA CAA, CWA, TSCA					
Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1gammaCEHC EIA Antiserum	NA	No	No	No	No
	16. Oth	ner Informat	tion		
Company Policy or Disclaimer					
For research use only, not for human or vet	erinary clinical use.				

Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

Printed: 09/10/2008 Revision: 09/08/2008

Date Created: 09/08/2008

1. 1	roduct and	Company I	dentification			
Product Code:	10011275					
Product Name:	.gammaCEHC I	EIA Standard				
Manufacturer Information						
Company Name:	Cayman Chemica	al Company				
Emergency Contact:	Cayman Chemica	al Company	(800)364-9897			
Information:	Cayman Chemica	al Company	(734)971-3335			
2. Cor	nposition/Ir	nformation of	on Ingredients	5		
Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits	
IgammaCEHC EIA Standard	NA	0.001 %	No data.	No data.	No data.	
2. Ethyl alcohol	64-17-5	99.999 %	8H TWA:1000 ppm (1900 mg/m3)	1000 ppm	No data.	
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL	
1gammaCEHC EIA Standard	NA	No data.	No data.	No data.	No data.	
2. Ethyl alcohol	KQ6300000	No data.	No data.	No data.	No data.	
	3. Hazai	rds Identific	ation			
Emergency Overview:	No data available					
Route(s) of Entry:	Inhalation? Yes	Skin? Yes Eve	es? Yes Ingestion? Y	es Other: Injed	ction	
Potential Health Effects (Acute and Chronic):		5	luct are those associated	-		
		-				
	Long term repeated oral exposure to ethanol may result in the development of progressive liver iniury with fibrosis					
injury with fibrosis.						
	Material is irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption.					
	-	• •	-	•		
	May cause eye, sl	kin, or respiratory s	ystem irritation.			
	May cause eye, sl Repeated exposur	kin, or respiratory s re may cause skin d	ystem irritation.		he affe at the CNI	
	May cause eye, sl Repeated exposur Repeated ingestic	kin, or respiratory s re may cause skin d on of ethanol by pre	ystem irritation. ryness or cracking. gnant mothers has beer	n shown to adverse		
	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu	kin, or respiratory s re may cause skin d on of ethanol by pre is, producing a colle	ystem irritation. ryness or cracking. gnant mothers has beer ection of effects which	n shown to adverse together consitute	e fetal alcohol	
	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These	kin, or respiratory s re may cause skin d on of ethanol by pre is, producing a colle include mental and	ystem irritation. ryness or cracking. gnant mothers has beer ection of effects which physical retardation, d	n shown to adverse together consitutue isturbances of learn	e fetal alcohol	
	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis	ystem irritation. Iryness or cracking. Ignant mothers has beer ection of effects which physical retardation, d sorders and small size h	n shown to adverse together consitutue isturbances of learn ead.	e fetal alcohol	
	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a collo include mental and acies, behavioral dis properties of this c	ystem irritation. Iryness or cracking. gnant mothers has been ection of effects which physical retardation, d corders and small size h compound have not bee	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated.	e fetal alcohol	
Signs and Symptoms Of Exposure:	May cause eye, sh Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow	ystem irritation. ryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not beer wsiness, headache, naus	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting.	e fetal alcohol ning, motor and	
Medical Conditions Generally Aggravated By	May cause eye, sh Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow	ystem irritation. ryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not beer wsiness, headache, naus	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting.	e fetal alcohol ning, motor and	
	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau Repeated exposur	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag	ystem irritation. Iryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting.	e fetal alcohol ning, motor and	
Medical Conditions Generally Aggravated By	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau Repeated exposur	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow	ystem irritation. Iryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting.	e fetal alcohol ning, motor and	
Medical Conditions Generally Aggravated By	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may car Repeated exposur <b>4. First</b>	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag	ystem irritation. Iryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other	e fetal alcohol ning, motor and causes.	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau Repeated exposur <b>4. First</b> If inhaled remove	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag	ystem irritation. Iryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro IFES breathing, give artificia	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other	e fetal alcohol ning, motor and causes.	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measu to fresh air. If not mediate medical at	ystem irritation. Iryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro IFES breathing, give artificia	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other	e fetal alcohol ning, motor and causes. re oxygen by train	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may car Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and accies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measu to fresh air. If not imediate medical at sh out mouth with y	ystem irritation. ryness or cracking. gnant mothers has beer ection of effects which physical retardation, d sorders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro- IFES breathing, give artificia tention.	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other Il respiration or giv s conscious. Never	e fetal alcohol ning, motor and causes. re oxygen by trair give anything by	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may car Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measu e to fresh air. If not mediate medical at sh out mouth with w	ystem irritation. Iryness or cracking. Ignant mothers has beer ection of effects which physical retardation, d sorders and small size h compound have not beer wsiness, headache, naus IFES breathing, give artificial tention. water provided person in	n shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other Il respiration or giv s conscious. Never	e fetal alcohol ning, motor and causes. re oxygen by train give anything by	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic	kin, or respiratory s re may cause skin d on of ethanol by pre us, producing a colle include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measu to fresh air. If not mediate medical at sh out mouth with w nscious person. Get cal personnel.	ystem irritation. Iryness or cracking. Ignant mothers has beer ection of effects which physical retardation, d sorders and small size h compound have not beer wsiness, headache, naus IFES breathing, give artificial tention. water provided person in	a shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other l respiration or giv s conscious. Never NOT induce vomi	e fetal alcohol ning, motor and causes. re oxygen by trair give anything by ting unless direct	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficient The toxicological Exposure may cau Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact	kin, or respiratory s re may cause skin d on of ethanol by pre- us, producing a colle- include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measure to fresh air. If not mediate medical at sh out mouth with w inscious person. Get cal personnel.	ystem irritation. Iryness or cracking. gnant mothers has beer ection of effects which physical retardation, d corders and small size h compound have not bee wsiness, headache, naus ggravate liver injury pro IFES breathing, give artificia tention. water provided person is t medical attention. Do	a shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other al respiration or giv s conscious. Never NOT induce vomities with plenty of w	e fetal alcohol ning, motor and causes. re oxygen by trair give anything by ting unless direct vater. After initial	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may car Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact flushings, remove	kin, or respiratory s re may cause skin d on of ethanol by pre- us, producing a colle- include mental and acies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measure to fresh air. If not mediate medical at sh out mouth with w inscious person. Get cal personnel.	ystem irritation. Iryness or cracking. Ignant mothers has beer ection of effects which physical retardation, d sorders and small size h compound have not beer wsiness, headache, naus IFES breathing, give artificia tention. water provided person is t medical attention. Do elids apart and flush eye and continue flushing	a shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other al respiration or giv s conscious. Never NOT induce vomities with plenty of w	e fetal alcohol ning, motor and causes. re oxygen by train give anything by ting unless direct vater. After initial	
Medical Conditions Generally Aggravated By Exposure:	May cause eye, sl Repeated exposur Repeated ingestic system of the fetu syndrome. These language deficien The toxicological Exposure may cau Repeated exposur <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact flushings, remove examined and tes	kin, or respiratory s re may cause skin d on of ethanol by pre- us, producing a colle- include mental and accies, behavioral dis properties of this c use: Dizziness, drow re to ethanol may ag t Aid Measure to fresh air. If not mediate medical at sh out mouth with w inscious person. Get cal personnel. t with eyes, hold eye e any contact lenses ted by medical pers	ystem irritation. Iryness or cracking. Ignant mothers has beer ection of effects which physical retardation, d sorders and small size h compound have not beer wsiness, headache, naus IFES breathing, give artificia tention. water provided person is t medical attention. Do elids apart and flush eye and continue flushing	a shown to adverse together consitutue isturbances of learn ead. n fully evaluated. sea, and vomiting. oduced from other d respiration or giv s conscious. Never NOT induce vomities with plenty of w for at least 20 minutices	e fetal alcohol ning, motor and causes. re oxygen by trair give anything by ting unless direct vater. After initial utes. Have eyes	

	5. Fire Fighting Measures
Flash Pt:	14.00 C Method Used: TAG Closed Cup
Explosive Limits:	LEL: 3.3% at 25.0 C UEL: 19% at 25.0 C
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in ethanol.
Flammable Properties and Hazards:	Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. Flammable liquid. Vapors can travel to a source of ignition and flash back.
Hazardous Combustion Products:	carbon dioxide
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
Unsuitable Extinguishing Media:	No data available.
6	Accidental Release Measures
Steps To Be Taken In Case Material Is Released Or Spilled:	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water.
	7. Handling and Storage
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation
Precautions To Be Taken in Handling:	Wash thoroughly after handling. Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
	Do not reuse this container. Keep away from sources of ignition. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.
8. Ex	posure Controls/Personal Protection
Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection: Protective Gloves:	Safety glasses
Other Protective Clothing:	Latex disposable gloves Lab coat
Engineering Controls (Ventilation etc.):	Good general ventilation should be sufficient to control airborne levels.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.
9.	Physical and Chemical Properties
Physical States:	[]Gas [X]Liquid []Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	14.00 C Method Used: TAG Closed Cup

Explosive Limits:	LEL: 3.3%	at 25.0 C U	JEL: 19% at 2	5.0 C	
Specific Gravity (Water = 1):	No data.				
Vapor Pressure (vs. Air or mm Hg):	44.6 MM_HG at	20.0 C			
Vapor Density (vs. Air = 1):	No data.				
Evaporation Rate (vs Butyl Acetate=1):	No data.				
Solubility in Water:	No data.				
Percent Volatile:	No data.				
Corrosion Rate:	No data.				
pH:	No data.				
Appearance and Odor:	A clear, colorless	solution			
	10 Stabili	ty and Rea	ctivity		
Stability:		Stable [ X ]	ouvity		
Conditions To Avoid - Instability:	No data available.				
Incompatibility - Materials To Avoid:	strong inorganic a				
	strong oxidizing a				
Hazardous Decomposition Or Byproducts:	carbon dioxide	0			
	carbon monoxide				
Hazardous Polymerization:	Will occur [ ]	Will not occur [ ]	XI		
Conditions To Avoid - Hazardous	No data available.				
Polymerization:					
	11. Toxicol	ogical Infor	mation		
		<u> </u>	pound have not been th	noroughly studied.	
Carcinogenicity/Other Information:	No data available.				
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No				
	12. Ecolo	gical Inform	nation		
:		<u> </u>	water may cause pollut	ion.	
		al Conside			
Waste Disposal Method:	•		ate and federal regulation	ons.	
	-	sport Inform	_		
LAND TRANSPORT (US DOT)					
DOT Proper Shipping Name	Ethyl alcohol				
DOT Hazard Class:	3				
DOT Hazard Label:	J FLAMMABLE L	IOUID			
UN/NA Number:	1170				
Packing Group:	П П				
Additional Transport Information:		rdance with local	state, and federal regula	itions	
	_		-		
	io. Regul	atory Inforn	ΠαιιΟΠ		
	CAS #	Sec 302 (EUS)	Sec 304 PO	Sec 313 (TPI)	Sec 110
lazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
Hazardous Components (Chemical Name)gammaCEHC EIA Standard	NA	No	No	No	No
Hazardous Components (Chemical Name)        gammaCEHC EIA Standard         2. Ethyl alcohol					
Hazardous Components (Chemical Name)	NA 64-17-5	No No	No No	No No	No No
-	NA	No	No	No	No

Page: 4 Printed: 09/10/2008 Revision: 09/08/2008

#### 16. Other Information

#### **Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

Printed: 11/02/2007 Revision: 09/18/2007 Supercedes Revision: 06/13/2007 Date Created: 06/27/1996

					eated: 06/27/1996
1. F	Product and	Company lo	dentification		
Product Code:	400060				
Product Name:	EIA Buffer Concentrate (10X)				
Manufacturer Information					
Company Name:	Cayman Chemical Company				
Emergency Contact:	Cayman Chemica	l Company	(800)364-9897		
Information:	Cayman Chemica		(734)971-3335		
Chemical Family:	EIA - Other	1 2			
2. Co	mposition/Ir	nformation c	n Ingredier	its	
Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Potassium phosphate, dibasic	7758-11-4	13.3 %	No data.	No data.	No data.
2. Potassium phosphate	7778-77-0	3.21 %	No data.	No data.	No data.
3. Sodium azide	26628-22-8	0.1 %	No data.	No data.	No data.
4. Sodium chloride	7647-14-5	23.4 %	No data.	No data.	No data.
5. Ethylenediamine Tetraacetic Acid	60-00-4	0.38 %	No data.	No data.	No data.
6. Serum Albumin	9048-46-8	1.0 %	No data.	No data.	No data.
7. Water	7732-18-5	58.61 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate, dibasic	NA	No data.	No data.	No data.	No data.
2. Potassium phosphate	TC6615500	No data.	No data.	No data.	No data.
3. Sodium azide	VY8050000	No data.	No data.	No data.	No data.
4. Sodium chloride	VZ4725000	No data.	No data.	No data.	No data.
5. Ethylenediamine Tetraacetic Acid	AH4025000	No data.	No data.	No data.	No data.
6. Serum Albumin	MT6446000	No data.	No data.	No data.	No data.
7. Water	ZC0110000	No data.	No data.	No data.	No data.
	3. Hazar	rds Identifica	ation		
Emergency Overview:	No data available				
Route(s) of Entry:					
	Inhalation? Yes	Skin? Yes Eye	s? Yes Ingestion	? Yes Other: Injec	tion
Potential Health Effects (Acute and Chronic		Skin? Yes Eye	s? Yes Ingestion	? Yes Other: Injec	tion
( <i>)</i>	): Irritant.	Skin? Yes Eye	Ū.	-	tion
( <i>)</i>	): Irritant. Material is irritati		embranes and uppe	r respiratory tract.	tion
( <i>)</i>	<ul> <li>Irritant.</li> <li>Material is irritati</li> <li>May be harmful b</li> </ul>	ng to the mucous m	embranes and uppe ion, or skin absorpt	r respiratory tract.	tion
( <i>)</i>	): Irritant. Material is irritati May be harmful b May cause eye, sł	ng to the mucous m by inhalation, ingest kin, or respiratory sy	embranes and uppe ion, or skin absorpt ystem irritation.	r respiratory tract.	tion
( <i>)</i>	): Irritant. Material is irritati May be harmful b May cause eye, sł	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co	embranes and uppe ion, or skin absorpt ystem irritation.	r respiratory tract.	tion
Potential Health Effects (Acute and Chronic	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to See	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co	embranes and uppe ion, or skin absorpt ystem irritation. ompound have not b	r respiratory tract. on. been fully evaluated.	tion
Potential Health Effects (Acute and Chronic	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to See Ingestion of large	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11	embranes and uppe ion, or skin absorpt ystem irritation. ompound have not b miting and diarrhea	r respiratory tract. on. been fully evaluated.	tion
Potential Health Effects (Acute and Chronic	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to Sec Ingestion of large 4. First	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes voi Aid Measu	embranes and uppe ion, or skin absorpt ystem irritation. ompound have not b miting and diarrhea	r respiratory tract. on. been fully evaluated.	
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to Sec Ingestion of large <b>4. First</b> If inhaled remove	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes voi Aid Measu	embranes and uppe ion, or skin absorpti ystem irritation. ompound have not h miting and diarrhea <b>TES</b> preathing, give artifi	r respiratory tract. on. been fully evaluated.	
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to Sec Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes vo <b>Aid Measu</b> to fresh air. If not t mediate medical att	embranes and uppe ion, or skin absorpti ystem irritation. ompound have not t miting and diarrhea <b>res</b> preathing, give artificention.	r respiratory tract. on. been fully evaluated.	e oxygen by trair
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to See Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes vo <b>Aid Measu</b> to fresh air. If not b unediate medical att sh out mouth with w	embranes and uppe ion, or skin absorption stem irritation. compound have not to miting and diarrhea <b>res</b> preathing, give artification. vater provided person	r respiratory tract. on. been fully evaluated.	e oxygen by trair give anything by
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to See Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes vor <b>Aid Measu</b> to fresh air. If not b mediate medical att sh out mouth with w nscious person. Get	embranes and uppe ion, or skin absorption stem irritation. compound have not to miting and diarrhea <b>res</b> preathing, give artification. vater provided person	r respiratory tract. on. been fully evaluated. cial respiration or given	e oxygen by train give anything by
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to Sec Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes voi <b>Aid Measu</b> to fresh air. If not to mediate medical att sh out mouth with w nscious person. Get cal personnel.	embranes and uppe ion, or skin absorpti ystem irritation. ompound have not h miting and diarrhea <b>rees</b> preathing, give artific ention. vater provided person medical attention. h	r respiratory tract. on. been fully evaluated. cial respiration or given	e oxygen by train give anything by ing unless direct
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to Sec Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncon to do so by medic In case of contact	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes vor <b>Aid Measu</b> to fresh air. If not the mediate medical att sh out mouth with w nscious person. Get cal personnel. with eyes, hold eye	embranes and uppe ion, or skin absorpti ystem irritation. ompound have not b miting and diarrhea <b>res</b> preathing, give artifi- cention. yater provided perso- medical attention. I	r respiratory tract. on. been fully evaluated. cial respiration or give n is conscious. Never Do NOT induce vomit	e oxygen by train give anything by ing unless direct ater. After initial
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to See Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncou to do so by medic In case of contact flushings, remove	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes vor <b>Aid Measu</b> to fresh air. If not the mediate medical att sh out mouth with w nscious person. Get cal personnel. with eyes, hold eye	embranes and uppe ion, or skin absorpti- ystem irritation. ompound have not b miting and diarrhea <b>res</b> preathing, give artifi- cention. vater provided perso- medical attention. I clids apart and flush and continue flushi	r respiratory tract. on. been fully evaluated. cial respiration or given n is conscious. Never Do NOT induce vomit eyes with plenty of w	e oxygen by train give anything by ing unless direct ater. After initial
Potential Health Effects (Acute and Chronic LD 50 / LC 50: Signs and Symptoms Of Exposure:	): Irritant. Material is irritati May be harmful b May cause eye, sh The toxicological Please refer to Sec Ingestion of large <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact flushings, remove examined and test	ng to the mucous m by inhalation, ingest kin, or respiratory sy properties of this co ction 11 amounts causes vor <b>Aid Measu</b> to fresh air. If not to mediate medical att sh out mouth with w nscious person. Get cal personnel. with eyes, hold eye e any contact lenses ted by medical person	embranes and uppe ion, or skin absorpti- ystem irritation. ompound have not b miting and diarrhea <b>res</b> preathing, give artifi- cention. vater provided perso- medical attention. I clids apart and flush and continue flushi ponel.	r respiratory tract. on. been fully evaluated. cial respiration or given n is conscious. Never Do NOT induce vomit eyes with plenty of w	e oxygen by trair give anything by ing unless direct ater. After initial ttes. Have eyes

	5. Fire Fighting Measures					
Flash Pt:	No data.					
Explosive Limits:	LEL: No data. UEL: No data.					
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH					
	approved or equivalent), and full protective gear to prevent contact with skin and eyes.					
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.					
Hazardous Combustion Products:	carbon dioxide					
	carbon monoxide					
	hydrogen chloride gas					
	sodium/sodium oxides					
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires					
	involving this material.					
Unsuitable Extinguishing Media:	No data available.					
6	6. Accidental Release Measures					
Steps To Be Taken In Case Material Is	Wear a government approved respirator and appropriate personal protection (rubber boots, safet					
Released Or Spilled:	goggles, and heavy rubber gloves).					
	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container					
	After removal, ventilate contaminated area and flush thoroughly with water.					
	7. Handling and Storage					
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation					
	Wash thoroughly after handling.					
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).					
C C	Avoid contact with eyes, skin, and clothing.					
	Avoid prolonged or repeated exposure.					
	Do not reuse this container.					
	Use with adequate ventilation.					
	Wash thoroughly after handling.					
Precautions To Be Taken in Storing:	Keep tightly closed.					
	Store at correct temperature.					
8. Ex	posure Controls/Personal Protection					
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety					
Label Information:	shower in work area Vent Hood					
Respiratory Equipment (Specify Type):	Government approved respirator as conditions warrant.					
Eye Protection:	Safety glasses					
Protective Gloves:	Latex disposable gloves					
Other Protective Clothing:	Latex disposable gloves Lab coat					
•						
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airbor levels below recommended exposure limits.					
Work/Hygienic/Maintenance Practices:	Do not take internally.					
	Facilities storing or utilizing this material should be equipped with an eyewash facility and a					
	safety shower.					
	Wash thoroughly after handling.					
9.	Physical and Chemical Properties					
Physical States:	[] Gas [X] Liquid [] Solid					
Melting Point:	No data.					
-	No data.					
Boiling Point:						
Boiling Point: Autoignition Pt	No data					
Boiling Point: Autoignition Pt: Flash Pt:	No data. No data. Method:					

 Page: 3

 Printed: 11/02/2007

 Revision: 09/18/2007

 Supercedes Revision: 06/13/2007

		Supercedes Revision: 06/13/2007
Explosive Limits:	LEL: No data.	UEL: No data.
Specific Gravity (Water = 1):	No data.	
Vapor Pressure (vs. Air or mm Hg):	No data.	
Vapor Density (vs. Air = 1):	No data.	
Evaporation Rate (vs Butyl Acetate=1):	No data.	
Solubility in Water:	No data.	
Percent Volatile:	No data.	
Corrosion Rate:	No data.	
pH:	No data.	
Appearance and Odor:	A clear, colorless solution	
	10. Stability and	d Reactivity
Stability:	Unstable [ ] Stable [ ]	-
Conditions To Avoid - Instability:	No data available.	• ]
Incompatibility - Materials To Avoid:	strong oxidizing agents	
Hazardous Decomposition Or Byproducts:	carbon dioxide	
hazardous becomposition of byproducts.	carbon monoxide	
	hydrogen chloride gas	
	sodium/sodium oxides	
Hazardous Polymerization:		ot occur [ X ]
Conditions To Avoid - Hazardous	No data available.	
Polymerization:	No data available.	
-	11. Toxicologica	Information
Tavia da via di Information.	<u> </u>	
Toxicological Information:	The toxicological effects of	f this compound have not been thoroughly studied.
	NaCl - Irritation data:	
	Skin (rabbit): 50 mg/24H r	nild
	Skin (rabbit): 500 mg/24H	
	Eye (rabbit): 100 mg mild	lillid
	•	
	Eye (rabbit): 100mg/24H n Eye (rabbit): 10 mg moder	
	Eye (labolt). To hig model	ate
	KH2PO4 -Toxicity data:	
	Skin LD50 (rabbit): >4640	mg/kg
	NaCl -Toxicity data:	
	Oral LDLO (man): 1000 m	
	Oral LD50 (rat): 3000 mg/	kg
	Inhalation LD50 (rat): >42	000 mg/m3/hr
	Oral LD50 (mouse): 4000	mg/kg
	Intraperitoneal LD50 (mou	
	Subcutaneous LD50 (mous	
	Intravenous LD50 (mouse)	
	Skin LD50 (rabbit): >1000	0mg/kg
Chronic Toxicological Effects:	NaCl - Target organ data:	
	Behavioral (somnolence)	
		effect on seizure threshold)
	Behavioral (change in moto	
	Behavioral (muscle contrac	ction or spasticity)
	Cardiac (other changes)	
	Effects on embryo or fetus	
	Effects on embryo or fetus	
	Effects on fertility (pre-imp	plantation mortality)
	Effects on fertility (post-in	
	Effects on fertility (abortio	n)

effects ( aal and gr gans and developm ect Regiss al entry in RTECS ECS Nur available. TA ECOLO ispos in accord Trans	(ovaries, fallopian ( (other effects on fe ross metabolic (cha special senses (oth nental abnormalitie stry of Toxic Effect n RTECS for comp Number: TC6615 mber: VZ4725000 RC Monographs? gical Inform control or dilution control or dilution al Conside dance with local, st sport Inform	male) anges in: NA) her eye effects) es (musculoskeletal sys ts of Chemical Substand plete information. 500 No OSHA Regula nation water may cause pollut erations ate and federal regulation	ted? No	presented here.
effects ( aal and gr gans and developm ect Regiss al entry in RTECS ECS Nur available. TA ECOLO ispos in accord Trans	(other effects on fe ross metabolic (cha special senses (oth nental abnormalities try of Toxic Effect n RTECS for comp Number: TC6615 mber: VZ4725000  RC Monographs? ogical Inform control or dilution control or dilution sal Conside lance with local, st sport Inform	male) anges in: NA) her eye effects) es (musculoskeletal sys ts of Chemical Substand plete information. 500 No OSHA Regula nation water may cause pollut erations ate and federal regulation	ted? No	presented here.
al and gr gans and developm ect Regiss al entry in RTECS ECS Nur available. D IA ECOIO rom fire of ispos in accord Trans	ross metabolic (cha special senses (oth nental abnormalities atry of Toxic Effect n RTECS for comp S Number: TC6615 mber: VZ4725000  RC Monographs? ogical Inform control or dilution control or dilution al Conside lance with local, st sport Inform	anges in: NA) her eye effects) es (musculoskeletal sys ts of Chemical Substand plete information. 500 No OSHA Regula nation water may cause pollut erations ate and federal regulation	ted? No	presented here.
gans and developm ect Regis al entry in RTECS ECS Nun available o IA ECOIO ispos in accord Trans	special senses (off mental abnormalities arry of Toxic Effect n RTECS for comp 3 Number: TC6615 mber: VZ4725000 c. RC Monographs? <b>ogical Inform</b> control or dilution <b>control or dilution</b> <b>control or dilution</b> <b>control or dilution</b> <b>control or dilution</b> <b>control or dilution</b> <b>control or dilution</b> <b>control or dilution</b>	ner eye effects) es (musculoskeletal sys ts of Chemical Substand plete information. 500 No OSHA Regula nation water may cause pollut erations ate and federal regulation	ted? No	presented here.
developm ect Regis al entry in RTECS ECS Nur available o IA ECOIO rom fire o ispos in accord Trans	nental abnormalities stry of Toxic Effect n RTECS for comp Number: TC6615 mber: VZ4725000	es (musculoskeletal sys ts of Chemical Substand plete information. 500 No OSHA Regula nation water may cause pollut terations ate and federal regulation	ted? No	presented here.
ect Regis al entry in RTECS ECS Nur available o IA ECOIO rom fire o ispos in accord Trans	stry of Toxic Effect n RTECS for comp Number: TC6615 mber: VZ4725000  RC Monographs? gical Inforn control or dilution control or dilution al Conside dance with local, st sport Inform	ts of Chemical Substand olete information. 500 No OSHA Regula nation water may cause pollut rations ate and federal regulation nation	ted? No	presented here.
al entry in RTECS ECS Nur available D IA ECOIO rom fire of ispos in accord Trans	n RTECS for comp Number: TC6615 mber: VZ4725000 RC Monographs? ogical Inforn control or dilution al Conside lance with local, st sport Inforn	No OSHA Regula nation water may cause pollut erations ate and federal regulation	ted? No ion.	presented here.
D IA ECOIO rom fire o ispos in accord Trans	RC Monographs? gical Inform control or dilution al Conside lance with local, st sport Inform	nation water may cause pollut rations ate and federal regulation	ion.	
Ecolo rom fire o ispos in accord Trans	gical Inform control or dilution al Conside dance with local, st sport Inform	nation water may cause pollut rations ate and federal regulation	ion.	
Ecolo rom fire o ispos in accord Trans	gical Inform control or dilution al Conside dance with local, st sport Inform	nation water may cause pollut rations ate and federal regulation	ion.	
rom fire of ispos in accord Trans	control or dilution al Conside dance with local, st sport Inform	water may cause pollut rations ate and federal regulation		
in accord Trans	lance with local, st sport Inform	ate and federal regulation	ons.	
in accord Trans	lance with local, st sport Inform	ate and federal regulation	ons.	
available.				
available.				
t in accor	rdance with local			
		state, and federal regula	ations.	
		-		
tegui	atory Inforr	nation		
\S #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
			-	No
				No
				No
	-			No
			_	No
				No
32-18-5	NO	NO	NO	No
				CA PROP 65
	-		,	No
	ļ		,	No
			Inventory	No
			Inventory	No
	No	No	Inventory	No
48-46-8		No	Inventory	No
32-10 F	l No	No	Inventory	No
	78-77-0 528-22-8 547-14-5 60-00-4 148-46-8 732-18-5 742-74-5 60-00-4 748-46-8 744-5 745-74-74-74-5 745-74-74-74-74-74-74-74-74-74-74-74-74-74-	V48-46-8         No           '32-18-5         No <b>XS # EPA CAA</b> '58-11-4         No           '78-77-0         No           528-22-8         No           547-14-5         No           60-00-4         No	778-77-0         No         No           528-22-8         Yes 500 LB         Yes 1000 LB           547-14-5         No         No           60-00-4         No         Yes 5000 LB           448-46-8         No         No           732-18-5         No         No           732-18-5         No         No           732-18-5         No         No           732-18-5         No         No           758-11-4         No         No           758-11-4         No         No           758-77-0         No         No           528-22-8         No         No           60-00-4         No         No           647-14-5         No         No           647-64-8         No         No	778-77-0         No         No         No           528-22-8         Yes 500 LB         Yes 1000 LB         Yes           547-14-5         No         No         No           60-00-4         No         Yes 5000 LB         No           60-00-4         No         Yes 5000 LB         No           732-18-5         No         No         No           732-18-5         No         No         No           XS#         EPA CAA         EPA CWA NPDES         EPA TSCA           758-11-4         No         No         Inventory           778-77-0         No         No         Inventory           528-22-8         No         No         Inventory           528-22-8         No         No         Inventory           547-14-5         No         No         Inventory           547-14-5         No         No         Inventory           60-00-4         No         No         Inventory           648-46-8         No         No         Inventory

#### **Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108

Printed: 11/30/2007 Revision: 11/04/2007 Supercedes Revision: 06/13/2007 Date Created: 06/27/1996

			dentificatior		
Product Code:	400062	(40037)			
Product Name:	Wash Buffer Con	centrate (400X)			
Manufacturer Information	a a :	1.0			
Company Name:	Cayman Chemica		(000) 0 < 1 000 5		
Emergency Contact:	Cayman Chemica		(800)364-9897		
Information:	Cayman Chemica	al Company	(734)971-3335		
Chemical Family:	EIA - Other	formation	on Ingradiar		
L. COI		Concentration	ON Ingredier		Other Limit
Potassium phosphate, dibasic	7758-11-4	53.2 %	No data.	No data.	No data.
2. Potassium phosphate	7778-77-0	12.85 %	No data.	No data.	No data.
3. Water	7732-18-5	33.95 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Potassium phosphate, dibasic	NA	No data.	No data.	No data.	No data.
2. Potassium phosphate	TC6615500	No data.	No data.	No data.	No data.
3. Water	ZC0110000	No data.	No data.	No data.	No data.
	3 Hazar	rds Identific	ation		<u>l</u>
Emergency Overview:	No data available				
Route(s) of Entry:	Inhalation? Yes		es? Yes Ingestion	n? Yes Other: Injec	rtion
		-	-	-	SHOIL
Fotential Health Enects (Acute and Chronic).	Potential Health Effects (Acute and Chronic): Material is irritating to the mucous membranes and upper respiratory tract.				
May be harmful by inhalation, ingestion, or skin absorption.					
	-	by inhalation, ingest	tion, or skin absorpt		
	May cause eye, sl	by inhalation, ingest kin, or respiratory s	tion, or skin absorpt system irritation.	ion.	
Signs and Symptoms Of Exposure	May cause eye, sl The toxicological	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation.		
Signs and Symptoms Of Exposure:	May cause eye, sh The toxicological No data available	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not	ion.	
	May cause eye, sk The toxicological No data available <b>4. First</b>	by inhalation, ingest kin, or respiratory s properties of this c Aid Measu	tion, or skin absorpt system irritation. compound have not	ion.	
Signs and Symptoms Of Exposure: Emergency and First Aid Procedures:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove	by inhalation, ingest kin, or respiratory s properties of this c t Aid Measu to fresh air. If not	tion, or skin absorpt system irritation. compound have not IFES breathing, give artif	ion.	e oxygen by trair
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifictention.	ion. been fully evaluated. Ticial respiration or giv	
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artif tention. water provided perso	ion. been fully evaluated. ficial respiration or giv	give anything by
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artif tention. water provided perso	ion. been fully evaluated. Ticial respiration or giv	give anything by
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perso- t medical attention.	ion. been fully evaluated. ïcial respiration or giv on is conscious. Never Do NOT induce vomit	give anything by
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncon to do so by medic In case of contact	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifictention. water provided person t medical attention. elids apart and flush	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w	give anything by ting unless direct vater. After initial
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact flushings, remove	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifictention. water provided person t medical attention. elids apart and flush and continue flush	ion. been fully evaluated. ïcial respiration or giv on is conscious. Never Do NOT induce vomit	give anything by ting unless direct vater. After initial
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact flushings, remove examined and test	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artif ttention. water provided perso t medical attention. elids apart and flush connel.	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu	give anything by ting unless direct vater. After initial ates. Have eyes
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an unco to do so by medic In case of contact flushings, remove examined and test In case of skin co	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perso- t medical attention. elids apart and flush sonnel. wash skin with soap	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu p and plenty of water.	give anything by ting unless direct vater. After initial ites. Have eyes Remove
	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin co contaminated clot	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artif ttention. water provided perso t medical attention. elids apart and flush sonnel. wash skin with soap attention if symptor	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu	give anything by ting unless direct vater. After initial ites. Have eyes Remove
Emergency and First Aid Procedures:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncou to do so by medic In case of contact flushings, remove examined and test In case of skin co contaminated clot <b>5. Fire Fi</b>	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artif ttention. water provided perso t medical attention. elids apart and flush sonnel. wash skin with soap attention if symptor	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu p and plenty of water.	give anything by ting unless direct vater. After initial ites. Have eyes Remove
Emergency and First Aid Procedures:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin co contaminated clot <b>5. Fire Fi</b> No data.	by inhalation, ingest kin, or respiratory s properties of this c	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perso- t medical attention. elids apart and flush sonnel. wash skin with soaj attention if symptor	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu p and plenty of water.	give anything by ting unless direct vater. After initial ites. Have eyes Remove
Emergency and First Aid Procedures: Flash Pt: Explosive Limits:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin co contaminated clot <b>5. Fire Fi</b> No data. LEL: No data.	by inhalation, ingest kin, or respiratory s properties of this c t Aid Measu to fresh air. If not mediate medical at sh out mouth with v nscious person. Get cal personnel. with eyes, hold eye tany contact lenses ted by medical pers ntact, immediately thing. Get medical at ghting Mea	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perse- t medical attention. elids apart and flush sonnel. wash skin with soaj attention if symptom SUFES UEL: No data.	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu p and plenty of water. I ns occur. Wash clothin	give anything by ting unless direct vater. After initial utes. Have eyes Remove ng before reuse.
Emergency and First Aid Procedures:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin cor contaminated clot <b>5. Fire Fi</b> No data. LEL: No data.	by inhalation, ingest kin, or respiratory s properties of this c t Aid Measure to fresh air. If not mediate medical at sh out mouth with v nscious person. Get cal personnel. with eyes, hold eye e any contact lenses ted by medical pers ntact, immediately thing. Get medical at ghting Mea	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perse- t medical attention. elids apart and flush and continue flush sonnel. wash skin with soap attention if symptor SUFES UEL: No data. reathing apparatus p	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu o and plenty of water. I ns occur. Wash clothin	give anything by ting unless direct vater. After initial utes. Have eyes Remove ng before reuse.
Emergency and First Aid Procedures: Flash Pt: Explosive Limits: Fire Fighting Instructions:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin cor contaminated clot <b>5. Fire Fi</b> No data. LEL: No data. As in any fire, we approved or equiv	by inhalation, ingest kin, or respiratory s properties of this c t Aid Measure to fresh air. If not mediate medical at sh out mouth with v nscious person. Get cal personnel. with eyes, hold eye any contact lenses ted by medical person ntact, immediately thing. Get medical a ghting Mea car self-contained b valent), and full pro	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perso- t medical attention. elids apart and flush and continue flush sonnel. wash skin with soap attention if symptor SUFES UEL: No data. reathing apparatus potective gear to prev	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu p and plenty of water. I ns occur. Wash clothin	give anything by ting unless direct vater. After initial utes. Have eyes Remove ng before reuse.
Emergency and First Aid Procedures: Flash Pt: Explosive Limits: Fire Fighting Instructions: Flammable Properties and Hazards:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin cor contaminated clot <b>5. Fire Fi</b> No data. LEL: No data. As in any fire, we approved or equiv	by inhalation, ingest kin, or respiratory s properties of this c t Aid Measure to fresh air. If not mediate medical at sh out mouth with v nscious person. Get cal personnel. with eyes, hold eye e any contact lenses ted by medical pers ntact, immediately thing. Get medical at ghting Mea	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perso- t medical attention. elids apart and flush and continue flush sonnel. wash skin with soap attention if symptor SUFES UEL: No data. reathing apparatus potective gear to prev	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu o and plenty of water. I ns occur. Wash clothin	give anything by ting unless direct vater. After initial utes. Have eyes Remove ng before reuse.
Emergency and First Aid Procedures: Flash Pt: Explosive Limits: Fire Fighting Instructions:	May cause eye, sh The toxicological No data available <b>4. First</b> If inhaled remove personnel. Get im If swallowed, was mouth to an uncor to do so by medic In case of contact flushings, remove examined and test In case of skin cor contaminated clot <b>5. Fire Fi</b> No data. LEL: No data. As in any fire, we approved or equiv	by inhalation, ingest kin, or respiratory s properties of this c t Aid Measure to fresh air. If not mediate medical at sh out mouth with v nscious person. Get al personnel. with eyes, hold eye e any contact lenses ted by medical pers ntact, immediately thing. Get medical at <b>ghting Mea</b> ear self-contained by valent), and full pro- s under fire condition	tion, or skin absorpt system irritation. compound have not IFES breathing, give artifi- tention. water provided perso- t medical attention. elids apart and flush and continue flush sonnel. wash skin with soap attention if symptor SUFES UEL: No data. reathing apparatus potective gear to prev	ion. been fully evaluated. ficial respiration or giv on is conscious. Never Do NOT induce vomit a eyes with plenty of w ing for at least 20 minu o and plenty of water. I ns occur. Wash clothin	give anything by ting unless direct vater. After initial utes. Have eyes Remove ng before reuse.

 Page:
 2

 Printed:
 11/30/2007

 Revision:
 11/04/2007

 Supercedes Revision:
 06/13/2007

	Supercedes Revision: 06/13/200
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires
	involving this material.
Unsuitable Extinguishing Media:	No data available.
6	<ol> <li>Accidental Release Measures</li> </ol>
Steps To Be Taken In Case Material Is	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal
Released Or Spilled:	protection (rubber boots, safety goggles, and heavy rubber gloves).
	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste contained
	After removal, ventilate contaminated area and flush thoroughly with water.
	7. Handling and Storage
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation
	Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).
	Avoid contact with eyes, skin, and clothing.
	Avoid prolonged or repeated exposure.
	Do not reuse this container.
	Use with adequate ventilation.
	Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Keep tightly closed.
	Store at correct temperature.
8. Ex	posure Controls/Personal Protection
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety
Label Information:	shower in work area Vent Hood
Respiratory Equipment (Specify Type):	Government approved respirator as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airbo
	levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally.
	Facilities storing or utilizing this material should be equipped with an eyewash facility and a
	safety shower.
	Wash thoroughly after handling.
9.	Physical and Chemical Properties
Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data. Method:
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
	No data.
Evaporation Rate (vs Butyl Acetate=1):	
	No data.
Solubility in Water:	No data. No data.
Solubility in Water:	
Evaporation Rate (vs Butyl Acetate=1): Solubility in Water: Percent Volatile: Corrosion Rate: pH:	No data.

	10. Stabil	ity and Rea	ctivity				
Stability:	Unstable [ ]	Stable [ X ]					
Conditions To Avoid - Instability:	No data available	No data available.					
Incompatibility - Materials To Avoid:	strong oxidizing a	agents					
Hazardous Decomposition Or Byproducts:	carbon dioxide						
	carbon monoxide						
Hazardous Polymerization:	Will occur [ ]	Will not occur [	X ]				
Conditions To Avoid - Hazardous Polymerization:	No data available						
	11. Toxicol	logical Infor	mation				
Toxicological Information:	The toxicological	effects of this com	pound have not been th	oroughly studied.			
Chronic Toxicological Effects:	KH2PO4 - Skin I	D50 (rabbit): >464	40 mg/kg				
Carcinogenicity/Other Information:	No data available						
Carcinogenicity:	NTP? No IA	RC Monographs?	No OSHA Regulat	ed? No			
	12. Ecolo	gical Inform	nation				
Ecological Information:		<u> </u>	water may cause polluti	on.			
	13. Dispos	al Conside	rations				
Waste Disposal Method:	Dispose in accord	lance with local, sta	ate and federal regulation	ons.			
	14. Trans	sport Inform	nation				
LAND TRANSPORT (US DOT)							
DOT Proper Shipping Name	No data available						
Additional Transport Information:	Transport in acco	rdance with local, s	state, and federal regula	tions.			
	15. Regul	atory Inforn	nation				
US EPA SARA Title III							
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110		
. Potassium phosphate, dibasic	7758-11-4	No	No	No	No		
2. Potassium phosphate	7778-77-0	No	No	No	No		
3. Water	7732-18-5	No	No	No	No		
US EPA CAA, CWA, TSCA		I	1	1			
Hazardous Components (Chemical Name)	CAS #		EPA CWA NPDES	EPA TSCA	CA PROP 6		
Potassium phosphate, dibasic	7758-11-4	No	No		No		
2. Potassium phosphate 3. Water	7778-77-0	No	No		No		
	1 (/32-18-5	l No	No	Inventory	No		

#### **Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

Cayman Chemical Company 1180 E. Ellsworth Rd. Ann Arbor, MI 48108				Rev Supercedes Rev	rinted: 11/30/2007 vision: 11/27/2007 vision: 09/24/2007 eated: 06/27/1996
1. P	roduct and	Company I	dentification		
Product Code:	400035				
Product Name:	Tween 20				
Manufacturer Information					
Company Name:	Cayman Chemica	l Company			
Emergency Contact:	Cayman Chemica	l Company	(800)364-9897		
Information:	Cayman Chemica	l Company	(734)971-3335		
Chemical Family:	EIA - Other				
CAS Number:	9005-64-5				
RTECS #:	TR7400000				
2. Cor	nposition/Ir	formation	on Ingredien	ts	
Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
<ol> <li>Polyoxyehtylene (20) sorbitan monolaurate (Tween 20)</li> </ol>	9005-64-5	100.0 %	No data.	No data.	No data.
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Polyoxyehtylene (20) sorbitan monolaurate (Tween 20)	TR7400000	No data.	No data.	No data.	No data.
	3. Hazar	ds Identific	ation		
Emergency Overview:	No data available				
Route(s) of Entry:	Inhalation? Yes	Skin? Yes Ey	es? Yes Ingestion?	Yes Other: Injec	ction
Potential Health Effects (Acute and Chronic):	Material may be i	rritating to the mu	cous membranes and		et.
	May be harmful b	y inhalation, inges	tion, or skin absorptio	on.	
	May cause eye, sl	cin, or respiratory s	system irritation.		
	-		compound have not be	een fully evaluated.	
LD 50 / LC 50:	Please refer to See				
Signs and Symptoms Of Exposure:	No data available				
	4. First	Aid Measu	ures		
Emergency and First Aid Procedures:			breathing, give artific	cial respiration or giv	e oxygen by train
	-	mediate medical a			
			water provided persor		
	to do so by medic	-	t medical attention. D	o NOT induce vomi	ting unless directe
	-	-	elids apart and flush e	wes with plenty of w	ater After initial
			s and continue flushin		
	-	ted by medical per		g 101 at 10abt 20 mm	
		•	wash skin with soap	and plenty of water.	Remove
	contaminated clot	hing. Get medical	attention if symptoms	s occur. Wash clothin	g before reuse.
	5. Fire Fi	ghting Mea	sures		
Flash Pt:	232.00 C	0 0			
Explosive Limiter	LEL: No data.		UEL: No data.		
Explosive Limits:		on colf contained b		essure-demand (MSF	
Fire Fighting Instructions:	As in any fire, we	ar sen-contained b	reathing apparatus pr	costile demand (mor	IA/NIUSH
•			preathing apparatus protective gear to preven		

#### MATERIAL SAFETY DATA SHEET Tween 20

Page: 2 Printed: 11/30/2007 Revision: 11/27/2007 Supercedes Revision: 09/24/2007

	Supercedes Revision: 09/24/2007
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires
	involving this material.
Unsuitable Extinguishing Media:	No data available.
6	<ol><li>Accidental Release Measures</li></ol>
Steps To Be Taken In Case Material Is	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal
Released Or Spilled:	protection (rubber boots, safety goggles, and heavy rubber gloves).
	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container
	After removal, ventilate contaminated area and flush thoroughly with water.
	7. Handling and Storage
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation
	Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).
	Avoid contact with eyes, skin, and clothing.
	Avoid prolonged or repeated exposure.
	Do not reuse this container.
	Keep away from sources of ignition.
	Use with adequate ventilation.
Pressutions To Do Tokon in Ctoning.	Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Keep tightly closed. Store at correct temperature.
	posure Controls/Personal Protection
Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety
	shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airbor levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally.
Wontengygierno mantenance i raotices.	Facilities storing or utilizing this material should be equipped with an eyewash facility and a
	safety shower.
	Wash thoroughly after handling.
9.	Physical and Chemical Properties
Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	232.00 C Method:
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.095 at 25.0 C
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
	N.A.
Percent Volatile:	
Percent Volatile: Corrosion Rate:	No data.
	No data. C58H114O26

#### MATERIAL SAFETY DATA SHEET Tween 20

oH:	No data.								
Appearance and Odor:	A clear, yellow vi	iscous liquid							
	10. Stabili	ity and Rea	ctivity						
Stability:		Stable [ X ]	,						
Conditions To Avoid - Instability:	No data available.								
ncompatibility - Materials To Avoid:	strong oxidizing a								
lazardous Decomposition Or Byproducts:	carbon dioxide								
	carbon monoxide								
lazardous Polymerization:	Will occur [ ]	Will not occur [2	X]						
Conditions To Avoid - Hazardous Polymerization:	No data available.								
	11. Toxicol	logical Infor	mation						
oxicological Information:				n thoroughly studied.					
	Irritation Data:								
	Skin (human): 15	mg/3D-I mild							
	Toxicity Data:								
	Oral LD50 (rat):3	e e							
	-	D50 (rat):3850 mg/l	кg						
	Intravenous LD50								
	Oral LD50 (mous								
	Intraperitoneal LD50 (mouse):2640 mg/kg								
	Intravenous LD50 (mouse):1420 mg/kg								
	Oral LD50 (hamster):18 ml/kg								
Chronic Toxicological Effects:	Target organ data:								
	Specific developmental abnormalities (musculoskeletal system) Specific developmental abnormalities (other developmental abnormalities)								
	Specific developm	nental abnormalitie	s (other developmer	ital abnormalities)					
	Only select Regis	try of Toxic Effects	of Chemical Subst	ances (RTECS) data is	presented here				
	• •	n RTECS for comp			presented here				
	-	umber: TR740000							
Carcinogenicity/Other Information:	No data available.								
Carcinogenicity:		RC Monographs? N	No OSHA Regi	ulated? No					
		gical Inform	_						
cological Information:		<u> </u>	water may cause pol	lution.					
	13. Dispos	al Conside	rations						
Vaste Disposal Method:	-		te and federal regula	ations.					
AND TRANSPORT (US DOT)	14. Trans	sport Inform	ation						
DOT Proper Shipping Name	No data available.								
Additional Transport Information:			tate, and federal reg	ulations					
	-	atory Inforn		ulations.					
JS EPA SARA Title III									
azardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110				
Polyoxyehtylene (20) sorbitan monolaurate	9005-64-5	No	No	No	No				

ANSI Z400.1 Format

#### MATERIAL SAFETY DATA SHEET Tween 20

Page: 4 Printed: 11/30/2007 Revision: 11/27/2007 percedes Revision: 09/24/2007

				Revisio	n: 11/27/2
				Supercedes Revision	n: 09/24/20
dous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP

# Hazardous Components (Chemical Name) CAS # EPA CAA EPA CWA NPDES EPA TSCA CA PROP 65 1. Polyoxyehtylene (20) sorbitan monolaurate (Tween 20) 9005-64-5 No No Inventory No 16. Other Information

#### **Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

# **Product Information**



# Precoated (Mouse Anti-Rabbit IgG) EIA 96 Well Strip Plates Catalog No. 400004

#### **COMMENTS**

Each plate is coated with the Mouse Anti-Rabbit IgG antibody. This Material Safety Data Sheet (MSDS) is for the antibody only. A MSDS on this material is not required as this substance is a naturally occurring animal product. However, we do recommend the following minimum precautions when using this substance:

- Do NOT get in eyes, on skin, or on clothing.
- Do NOT take internally.
- Wear protective gloves and safety glasses.
- Keep container closed.
- Store at correct temperature.
- Do NOT reuse this container.
- Do NOT release this material to the environment; dispose of by incineration in accordance with federal, state, and local regulations.
- Wash thoroughly after handling.

WARNING: This material should be considered hazardous until information to the contrary becomes available. This product is not intended or approved for human or veterinary use. Use of this product for human or animal testing is extremely hazardous and may result in disease, severe injury, or death.

The above information is believed to be correct but should only be used as a guide. Cayman Chemical disclaims any express or implied warranty as to the accuracy of the above information and shall not be held liable for any direct, incidental, or consequential damages resulting from reliance on the above information.

Copyright Cayman Chemical Company Revision Date: 6/24/2005

#### **Cayman Chemical**

Mailing address 1180 E. Ellsworth Road Ann Arbor, MI 48108 USA

**Phone** (800) 364-9897 (734) 971-3335

**Fax** (734) 971-3640

E-Mail custserv@caymanchem.com

Web www.caymanchem.com

1. Product and Company Identification         Product Name:       400050         Product Name:       Ellman's Reagent         Manufacture Information       Cayman Chemical Company         Company Name:       Cayman Chemical Company         Emergency Contact:       Cayman Chemical Company         Information:       Cayman Chemical Company         (S00)364-9897       Information:         Chemical Family:       ELA - Other         A Concentration On Ingredients         Hazardous Components (Chemical Name)         CAS # Concentration         Information:         A Coll TLV       Other Lir         Information:         A Concentration         No data:         A Concentration         No data:	1180 E. Ellsworth Rd. Ann Arbor, MI 48108				Re <sup>.</sup> Supercedes Re <sup>.</sup>	rinted: 12/07/2007 vision: 09/24/2007 vision: 06/27/2005 eated: 06/27/1996
Product Name:       Ellman's Reagent         Manufacturer Information       Cayman Chemical Company       (800)364-9897         Company Name:       Cayman Chemical Company       (800)364-9897         Information:       Cayman Chemical Company       (734)971-3335         Chemical Family:       EIA - Other         Autority:       Composition/Information on Ingredients         Hazardous Components (Chemical Name)       Case and constraint       Osh AP PEL       ACGH TLV       Other Link         Hazardous Components (Chemical Name)       Case and available.       No data       No data       No data         Route(s) of Entry:       No data available.       Instalation; Pee System	1. P	roduct and	Company I	dentification		
Manufacturer Information       Cayman Chemical Company         Company Name:       Cayman Chemical Company         Emergency Contact:       Cayman Chemical Company         Information:       Cayman Chemical Company         I.       Ella - Other         I.       Ella - Other         AcGH TLV       Other Lin         I.       Ella - Other         I.       Ella - Other         AcGH TLV       Other Lin         I.       Ella - Other         Stardous Components (Chemical Name)       CAS #         Concentration       OSHA PEL         AcGH TLV       Other Lin         I.       Ella - Other         I.       Ella - Other         Stardous Components (Chemical Name)       CAS #         Concentration       Otata         I.       Inhalation, ingestion, or skin absorption.         Ray be harmful by inhalation, ingestion, or skin absorption	Product Code:	400050				
Company Name:       Cayman Chemical Company       (800)364-9897         Emergency Contact:       Cayman Chemical Company       (800)364-9897         Information:       Cayman Chemical Company       (734)971-3335         Chemical Family:       EllA - Other         Hazardous Components (Chemical Name)       CAS #       Concentration       OSHA PEL       ACGIH TLV       Other Lir         Hazardous Components (Chemical Name)       CAS #       Concentration       OSHA PEL       ACGIH TLV       Other Lir         No data       No data       No data       No data       No data       No data         Benergency Overview:       No data available.       Inhalation? Yes       Skin? Yes       Eyes? Yes       Ingestion? Yes       Other: Injection         Potential Health Effects (Acute and Chronic):       Irritant.       Material is irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption. May cause eye, skin, or respiratory system irritation. May cause eye, skin, or respiratory system irritation. May cause eye, skin, or respiratory system irritation. May cause eye, skin, or respiratory system irritation. Ingestion of large amounts causes vomiting and diarrhea.         Benergency and First Aid Procedures:       If inhaled fermove to fresh air. If not breathing, give artificial respiration or give oxygen by th personnel. Get immediate medical attention. Do NOT induce vomiting unless dir to do so	Product Name:	Ellman's Reagent				
Emergency Contact:       Cayman Chemical Company       (800)364-9897         Information:       Cayman Chemical Company       (734)971-3335         Chemical Family:       EIA - Other           2. Composition/Information on Ingredients          AcGiH TLV       Other Lin          Hazardous Components (Chemical Name)       CAS #       Concentration       OSHA PEL       ACGIH TLV       Other Lin          Ellman's Reagent       NA       0.0 -100.0 %       No data       No data       No data         Brute(s) of Entry:       Inhalation? Yes       Skin? Yes       Eyes? Yes       Ingestion? Yes       Other: Injection         Potential Health Effects (Acute and Chronic):       Irritant.       Material is irritating to the mucous membranes and upper respiratory tract. May cause eye, skin, or respiratory system irritation. The toxicological properties of this compound have not been fully evaluated.       Ingestion of large amounts causes vomiting and diarrhea.         4. First Aid Measures       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by the personnel. Get immediate medical attention. Do NOT induce vomiting unless dir to do so by medical personnel.       In case of skin contact, immediate medical attention.         If wallowed, wash out mouth with water provided person sccur. Wash clothing before reuse examined and tested by medical personnel.       In case of skin contact, immediatel by medical attention.	Manufacturer Information					
Information:       Cayman Chemical Company       (734)971-3335         Chemical Family:       EIA - Other                 2. Composition/Information on Ingredients          fazardous Components (Chemical Name)              CAS #               Concentration               OSHA PEL             ACGIH TLV             Other Lir                  Ellenan's Reagent               NA               Osentat               No data                  No data                    No data                  No data               No data	Company Name:					
Chemical Family:       EIA - Other         Ela - Other         Hazardous Components (Chemical Name)       CAS #       Concentration       OSHA PEL       ACGIH TLV       Other Lin         Accil Image: Segment       NA       0.0 -100.0 %       No data.       No dat	• •	-				
2. Composition/Information on Ingredients         Hazardous Components (Chemical Name)       CAS #       Concentration       OSHA PEL       ACGIH TLV       Other Lir         1. Ellman's Reagent       NA       0.0 -100.0 %       No data.       Signs and Symptoms Of Exposure:       Inhalation, ingestion, or skin absorption.       May cause eye, skin, or respiratory system irritation.       The toxicological properties of this compound have not been fully evaluated.       Ingestion of arge amounts ca		-	al Company	(734)971-3335		
Hazardous Components (Chemical Name)       CAS #       Concentration       OSHA PEL       ACGH TLV       Other Lin         1.       Ellman's Reagent       NA       0.0-100.0 %       No data.       No data. <t< td=""><td>•</td><td></td><td></td><td></td><td></td><td></td></t<>	•					
Ellman's Reagent       NA       0.0 -100.0 %       No data.       No data.       No data.         3. Hazard's Identification         Emergency Overview:         Route(s) of Entry:         Potential Health Effects (Acute and Chronic):         Inritant.         Material is irritating to the mucous membranes and upper respiratory tract.         May cause eye, skin, or respiratory system irritation.       May cause eye, skin, or respiratory system irritation.         The toxicological properties of this compound have not been fully evaluated.         Signs and Symptoms Of Exposure:         If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by the personnel. Get immediate medical attention.         If sinhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by the personnel. Get immediate medical attention.         If sinhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by the personnel. Get immediate personel.         In case of sontact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of shin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash cloth	2. Col	mposition/Ir	nformation of	on Ingredien	its	
3. Hazards Identification         Emergency Overview:       No data available.         Route(s) of Entry:       Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection         Potential Health Effects (Acute and Chronic):       Irritant.         Material is irritating to the mucous membranes and upper respiratory tract.       May be harmful by inhalation, ingestion, or skin absorption.         May be harmful by inhalation, ingestion, or skin absorption.       May cause eye, skin, or respiratory system irritation.         The toxicological properties of this compound have not been fully evaluated.       Ingestion of large amounts causes vomiting and diarrhea.         4. First Aid Measures       4. First Aid Measures         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr personnel. Get immediate medical attention.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact tenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse         Flash Pt:       No data.         Explosive Limits:       LE: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivale						Other Limits
Emergency Overview:       No data available.         Route(s) of Entry:       Inhalation? Yes       Skin? Yes       Eyes? Yes       Ingestion? Yes       Other: Injection         Potential Health Effects (Acute and Chronic):       Irritant.       Material is irritating to the mucous membranes and upper respiratory tract.         May be harmful by inhalation, ingestion, or skin absorption.       May cause eye, skin, or respiratory system irritation.         Signs and Symptoms Of Exposure:       Ingestion of large amounts causes vomiting and diarrhea.         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.       In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse         Flash Pt:       No data.       UEL: No data.       UEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear	1. Ellman's Reagent				No data.	No data.
Roule(s) of Entry:       Inhalation? Yes       Skin? Yes       Eyes? Yes       Ingestion? Yes       Other: Injection         Potential Health Effects (Acute and Chronic):       Irritant.       Material is irritating to the mucous membranes and upper respiratory tract.         May be harmful by inhalation, ingestion, or skin absorption.       May cause eye, skin, or respiratory system irritation.         Signs and Symptoms Of Exposure:       Ingestion of large amounts causes vomiting and diarrhea.         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse         Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.		3. Haza	rds Identific	ation		
Potential Health Effects (Acute and Chronic):       Irritant.         Material is irritating to the mucous membranes and upper respiratory tract.       May be harmful by inhalation, ingestion, or skin absorption.         May cause eye, skin, or respiratory system irritation.       The toxicological properties of this compound have not been fully evaluated.         Signs and Symptoms Of Exposure:       Ingestion of large amounts causes vomiting and diarrhea. <b>4. First Aid Measures 4. First Aid Measures</b> Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dir to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediatel wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. Get medical attention approtus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Fies Fighting Instructions:       Emits toxic and corrosive fumes under fire conditions.         Fire Fighting Media:       Use alcohol-resistant		No data available				
Material is irritating to the mucous membranes and upper respiratory tract.         May be harmful by inhalation, ingestion, or skin absorption.         May cause eye, skin, or respiratory system irritation.         The toxicological properties of this compound have not been fully evaluated.         Ingestion of large amounts causes vomiting and diarrhea. <b>4. First Aid Measures</b> Emergency and First Aid Procedures:         If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dir to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. Get medical attention apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flash Pt:       LEL: No data.       UEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.			Skin? Yes Eye	es? Yes Ingestion	? Yes Other: Inje	ction
May be harmful by inhalation, ingestion, or skin absorption.         May cause eye, skin, or respiratory system irritation.         The toxicological properties of this compound have not been fully evaluated.         Ingestion of large amounts causes vomiting and diarrhea.         4. First Aid Measures         Emergency and First Aid Procedures:         If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by the personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initi flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. Get medical attention apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flash Pt:       LEL: No data.         LEL: No data.       LEL: No data.         As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.	Potential Health Effects (Acute and Chronic):					
May cause eye, skin, or respiratory system irritation. The toxicological properties of this compound have not been fully evaluated. Ingestion of large amounts causes vomiting and diarrhea.         Signs and Symptoms Of Exposure:       4. First Aid Measures         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by the personnel. Get immediate medical attention. If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel. In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initi flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel. In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse of skin contact, immediately mash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse to skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse to skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse to skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse of skin contact with skin and eyes			-			
Signs and Symptoms Of Exposure:       The toxicological properties of this compound have not been fully evaluated. Ingestion of large amounts causes vomiting and diarrhea.         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trepersonnel. Get immediate medical attention. If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel. In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel. In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse         Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.		-		-	on.	
Signs and Symptoms Of Exposure:       Ingestion of large amounts causes vomiting and diarrhea.         4. First Aid Measures         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr             personnel. Get immediate medical attention. If swallowed, wash out mouth with water provided person is conscious. Never give anything             mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire             to do so by medical personnel.             In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init             flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye             examined and tested by medical personnel.             In case of skin contact, immediately wash skin with soap and plenty of water. Remove             contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse          Flash Pt:       No data.         Explosive Limits:       LEL: No data.       UEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH             approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires             involving this material.					een fully evaluated	
4. First Aid Measures         Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by trepersonnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. In case of equivalent), and full protective gear to prevent contact with skin and eyes.         Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.	Signs and Symptoms Of Exposure:					
Emergency and First Aid Procedures:       If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by tr personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.       In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse <b>5.</b> Fire Fighting Measures         Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.				-		
personnel. Get immediate medical attention.         If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initifushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse <b>5. Fire Fighting Measures</b> Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.						
If swallowed, wash out mouth with water provided person is conscious. Never give anything mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initi flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse <b>5. Fire Fighting Measures</b> Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.	Emergency and First Aid Procedures:				cial respiration or giv	e oxygen by train
mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless dire to do so by medical personnel.         In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initi flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse to make the eyelity of water.         Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.						
to do so by medical personnel.       In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initiflushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse         Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.						
In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After init flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel. In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuseFlash Pt:No data.Explosive Limits:LEL: No data.Fire Fighting Instructions:LEL: No data.Flammable Properties and Hazards:Emits toxic and corrosive fumes under fire conditions.Extinguishing Media:Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.			-	i medical attention. I	50 NOT made vom	ting unless uncet
flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eye examined and tested by medical personnel.         In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse <b>5.</b> Fire Fighting Measures         Flash Pt:         Explosive Limits:         LEL: No data.         UEL: No data.         Fire Fighting Instructions:         As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:         Extinguishing Media:         Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.		-	•	elids apart and flush	eves with plenty of w	vater. After initial
In case of skin contact, immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse <b>5. Fire Fighting Measures</b> Flash Pt:No data.Explosive Limits:LEL: No data.Fire Fighting Instructions:LEL: No data.Fire Fighting Instructions:As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.Flammable Properties and Hazards:Emits toxic and corrosive fumes under fire conditions.Extinguishing Media:Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.			• • •	•		
contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse         5. Fire Fighting Measures         Flash Pt:         No data.         Explosive Limits:         IEL: No data.         UEL: No data.         Fire Fighting Instructions:         Fiammable Properties and Hazards:         Emits toxic and corrosive fumes under fire conditions.         Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.		examined and tes	ted by medical pers	onnel.		
Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.		In case of skin co	ntact, immediately	wash skin with soap	and plenty of water.	Remove
Flash Pt:       No data.         Explosive Limits:       LEL: No data.         Fire Fighting Instructions:       As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.         Flammable Properties and Hazards:       Emits toxic and corrosive fumes under fire conditions.         Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.		contaminated clo	thing. Get medical	attention if symptom	s occur. Wash clothin	ng before reuse.
Explosive Limits:LEL: No data.UEL: No data.Fire Fighting Instructions:As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.Flammable Properties and Hazards:Emits toxic and corrosive fumes under fire conditions.Extinguishing Media:Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.		5. Fire Fi	ighting Mea	sures		
Fire Fighting Instructions:As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.Flammable Properties and Hazards:Emits toxic and corrosive fumes under fire conditions.Extinguishing Media:Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.	Flash Pt:	No data.				
Flammable Properties and Hazards:Emits toxic and corrosive fumes under fire conditions.Extinguishing Media:Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.	Explosive Limits:	LEL: No data.		UEL: No data.		
Flammable Properties and Hazards:Emits toxic and corrosive fumes under fire conditions.Extinguishing Media:Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.	Fire Fighting Instructions:	-				
Extinguishing Media:       Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.					ent contact with skin a	and eyes.
involving this material.		Emits toxic and c	orrosive fumes und	er fire conditions.		
	Extinguishing Media:			ioxide, water, or dry	chemical spray when	n fighting fires
	Insuitable Extinguishing Modia					
	Unsuitable Extinguisning Media:	ino data available				

#### MATERIAL SAFETY DATA SHEET Ellman's Reagent

 Page:
 2

 Printed:
 12/07/2007

 Revision:
 09/24/2007

 Supercedes Revision:
 06/27/2005

	<ol><li>Accidental Release Measures</li></ol>
Steps To Be Taken In Case Material Is	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal
Released Or Spilled:	protection (rubber boots, safety goggles, and heavy rubber gloves).
	Vacuum or sweep up material and place in disposal container.
	Avoid raising dust.
	After removal, ventilate contaminated area and flush thoroughly with water.
	7. Handling and Storage
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilatio
	Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).
	Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
	Do not reuse this container.
	Hygroscopic.
	Use with adequate ventilation.
	Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Keep tightly closed.
	Protect from light.
	Protect from moisture.
	Store at correct temperature.
8. E	xposure Controls/Personal Protection
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety
Label Information:	shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airbor
	levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a
	safety shower.
	Wash thoroughly after handling.
9.	Physical and Chemical Properties
Physical States:	[]Gas []Liquid [X]Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data. Method:
	LEL: No data. UEL: No data.
Explosive Limits:	
Explosive Limits: Specific Gravity (Water = 1):	No data.
•	No data. No data.
Specific Gravity (Water = 1):	
Specific Gravity (Water = 1): Vapor Pressure (vs. Air or mm Hg):	No data.
Specific Gravity (Water = 1): Vapor Pressure (vs. Air or mm Hg): Vapor Density (vs. Air = 1):	No data. No data.
Specific Gravity (Water = 1): Vapor Pressure (vs. Air or mm Hg): Vapor Density (vs. Air = 1): Evaporation Rate (vs Butyl Acetate=1):	No data. No data. No data.
Specific Gravity (Water = 1): Vapor Pressure (vs. Air or mm Hg): Vapor Density (vs. Air = 1): Evaporation Rate (vs Butyl Acetate=1): Solubility in Water:	No data. No data. No data. No data.
Specific Gravity (Water = 1): Vapor Pressure (vs. Air or mm Hg): Vapor Density (vs. Air = 1): Evaporation Rate (vs Butyl Acetate=1): Solubility in Water: Percent Volatile:	No data. No data. No data. No data. No data.

# MATERIAL SAFETY DATA SHEET Ellman's Reagent

	10. Stability and Reactivity
Stability:	Unstable [ ] Stable [ X ]
Conditions To Avoid - Instability:	protect from light
	protect from moisture
Incompatibility - Materials To Avoid:	strong bases
	strong oxidizing agents
Hazardous Decomposition Or Byproducts:	carbon dioxide
	carbon monoxide
	hydrogen chloride gas
	hydrogen iodide
	nitrogen oxides
	sodium/sodium oxides
	sulfur oxides
Hazardous Polymerization:	Will occur [ ]   Will not occur [ X ]
Conditions To Avoid - Hazardous	No data available.
Polymerization:	
	11. Toxicological Information
Toxicological Information:	The toxicological effects of this compound have not been thoroughly studied.
Chronic Toxicological Effects:	Sodium Chloride - Target organ data:
	Behaviorial (change in motor activity)
	Behaviorial (convulsions or effect on seizure threshold)
	Behaviorial (muscle contraction or spasticity)
	Behaviorial (somnolence)
	Cardiac (other changes)
	Effects on embryo (fetal death)
	Effects on embryo or fetus (fetotoxicity)
	Effects on fertility (pre-implantation mortality)
	Effects on fertility (post-implantation mortality)
	Endocrine (estrogenic)
	Maternal effects (other effects on female)
	Maternal effects (ovaries, fallopian tubes)
	Nutritional and gross metabolic (changes in: NA)
	Sense organs and special senses (other eye effects) Specific developmental abnormalities (musculoskeletal system)
	Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
	See actual entry in RTECS for complete Information.
	Sodium Chloride RTECS Number: VZ4725000
Carcinogenicity/Other Information:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No
	12. Ecological Information
Ecological Information:	Runoff from fire control or dilution water may cause pollution.
	13. Disposal Considerations
Waste Disposal Method:	Dispose in accordance with local, state and federal regulations.
	14. Transport Information
LAND TRANSPORT (US DOT)	
DOT Proper Shipping Name	No data available.
Additional Transport Information:	Transport in accordance with local, state, and federal regulations.

#### MATERIAL SAFETY DATA SHEET Ellman's Reagent

Printed: 12/07/2007 Revision: 09/24/2007 Supercedes Revision: 06/27/2005

15. Regulatory Information								
US EPA SARA Title III								
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110			
1. Ellman's Reagent	NA	No	No	No	No			
US EPA CAA, CWA, TSCA	•				•			
Hazardous Components (Chemical Name) CAS # EPA CAA EPA CWA NPDES EPA TSCA CA PROP 65								
1. Ellman's Reagent NA No No No No								
	16. Oth	ner Informat	ion					

#### **Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

			dentification			
Product Code:	400040					
Product Name:	EIA Tracer Dye					
Manufacturer Information						
Company Name:	Cayman Chemica					
Emergency Contact:	Cayman Chemica		(800)364-9897			
Information:	Cayman Chemica	l Company	(734)971-3335			
Chemical Family:	EIA - Other					
2. Cor	nposition/In	formation of	on Ingredients	S		
Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limit	
1. EIA Tracer Dye	NA	0.0 -100.0 %	No data.	No data.	No data.	
2. Sodium hydroxide	1310-73-2	0.0 -100.0 %	8H TWA:2 mg/m3	No data.	No data.	
Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEII	
1. EIA Tracer Dye	NA		No data.	No data.	No data.	
2. Sodium hydroxide	WB4900000	No data.	No data.	No data.	No data.	
	3. Hazar	ds Identific	ation			
Emergency Overview:	No data available.					
Route(s) of Entry:	Inhalation? Yes	Skin? Yes Eye	es? Yes Ingestion?	Yes Other: Injec	tion	
Potential Health Effects (Acute and Chronic):	Corrosive, causes	severe burns.				
	Harmful if swallowed, inhaled, or absorbed through the skin.					
	Material is extremely destructive to the tissue of the mucous membranes and upper respiratory					
	tract, eyes, and skin.					
	The toxicological properties of this compound have not been fully evaluated.					
	Toxic					
LD 50 / LC 50:	Please refer to Sec	ction 11.				
Signs and Symptoms Of Exposure:	Inhalation may result in spasm, inflammation, and edema of the larynx and bronchi, chemical					
	pneumonitis, and pulmonary edema.					
	Symptoms of expe	-	burning sensation, cou	ghing, wheezing, la	•.• •	
					ryngitis, shortne	
	of breath, headach	ne, nausea, and von	niting.		ryngitis, shortne:	
		Aid Measu			ryngitis, shortne:	
Emergency and First Aid Procedures:	4. First	Aid Measu		al respiration or give		
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im	to fresh air. If not mediate medical at	ITES breathing, give artifici tention.		e oxygen by train	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct	to fresh air. If not mediate medical at t mouth-to-mouth in	IFES breathing, give artifici- tention. f victim ingested or inl	naled this substance:	e oxygen by train ; induce artificia	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th	to fresh air. If not mediate medical at t mouth-to-mouth in he aid of a pocket n	ITES breathing, give artifici tention.	naled this substance:	e oxygen by train ; induce artificia	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th respiratory medica	to fresh air. If not mediate medical at t mouth-to-mouth in he aid of a pocket n al device.	IFES breathing, give artifici- tention. f victim ingested or inl nask equipped with a o	naled this substance; ne-way valve or oth	e oxygen by train ; induce artificia ; er proper	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with the respiratory medica If swallowed, was	to fresh air. If not mediate medical at t mouth-to-mouth in he aid of a pocket n al device.	IFES breathing, give artifici tention. f victim ingested or inl hask equipped with a o water provided person	naled this substance; ne-way valve or oth is conscious. Never	e oxygen by train ; induce artificial ter proper give anything by	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th respiratory medica If swallowed, was mouth to an uncor	to fresh air. If not mediate medical at t mouth-to-mouth in he aid of a pocket m al device. sh out mouth with w nscious person. Get	IFES breathing, give artifici- tention. f victim ingested or inl nask equipped with a o	naled this substance; ne-way valve or oth is conscious. Never	e oxygen by train ; induce artificial ter proper give anything by	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th respiratory medica If swallowed, was mouth to an uncon to do so by medica	to fresh air. If not mediate medical at t mouth-to-mouth in a device. sh out mouth with w nscious person. Get al personnel.	IFES breathing, give artifici- tention. f victim ingested or inl nask equipped with a o vater provided person t medical attention. Do	naled this substance; ne-way valve or oth is conscious. Never NOT induce vomit	e oxygen by train ; induce artificial er proper give anything by ing unless direct	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with the respiratory medica If swallowed, was mouth to an uncon to do so by medica In case of contact	to fresh air. If not mediate medical at t mouth-to-mouth in he aid of a pocket n al device. Sh out mouth with w nscious person. Get al personnel. with eyes, hold eye	IFES breathing, give artifici tention. f victim ingested or inl nask equipped with a o vater provided person t medical attention. Do elids apart and flush ey	naled this substance; ne-way valve or oth is conscious. Never NOT induce vomit yes with plenty of wa	e oxygen by train ; induce artificial er proper give anything by ing unless direct ater. After initial	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with the respiratory medica If swallowed, was mouth to an uncor to do so by medica In case of contact flushings, remove	to fresh air. If not mediate medical at t mouth-to-mouth in t aid of a pocket n al device. sh out mouth with w nscious person. Get al personnel. with eyes, hold eyes any contact lenses	IFES breathing, give artifici tention. f victim ingested or inl hask equipped with a o water provided person t medical attention. Do elids apart and flush ey and continue flushing	naled this substance; ne-way valve or oth is conscious. Never NOT induce vomit yes with plenty of wa	e oxygen by train ; induce artificia aer proper give anything by ing unless direct ater. After initial	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th respiratory medica If swallowed, was mouth to an uncon to do so by medica In case of contact flushings, remove examined and test	Aid Measu to fresh air. If not mediate medical at t mouth-to-mouth in e aid of a pocket n al device. sh out mouth with w inscious person. Get al personnel. with eyes, hold eye any contact lenses ted by medical person	ITES breathing, give artifici- tention. f victim ingested or inl nask equipped with a o vater provided person t medical attention. Do elids apart and flush ey and continue flushing onnel.	naled this substance; ne-way valve or oth is conscious. Never NOT induce vomit yes with plenty of way for at least 20 minu	e oxygen by train ; induce artificia aer proper give anything by ing unless direct ater. After initial ites. Have eyes	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th respiratory medica If swallowed, was mouth to an uncon to do so by medica In case of contact flushings, remove examined and test In case of skin con	to fresh air. If not mediate medical at t mouth-to-mouth in a aid of a pocket n al device. sh out mouth with w nscious person. Get al personnel. with eyes, hold eye any contact lenses ted by medical pers ntact, immediately	IFES breathing, give artifici- tention. f victim ingested or inl nask equipped with a o water provided person t medical attention. Do elids apart and flush ey and continue flushing onnel. wash skin with soap at	naled this substance; ne-way valve or oth is conscious. Never NOT induce vomit yes with plenty of water. I nd plenty of water. I	e oxygen by trair ; induce artificial aer proper give anything by ing unless direct ater. After initial tes. Have eyes Remove	
Emergency and First Aid Procedures:	4. First If inhaled remove personnel. Get im Do not give direct respiration with th respiratory medica If swallowed, was mouth to an uncon to do so by medica In case of contact flushings, remove examined and test In case of skin con	to fresh air. If not mediate medical at t mouth-to-mouth in a aid of a pocket n al device. sh out mouth with w nscious person. Get al personnel. with eyes, hold eye any contact lenses ted by medical pers ntact, immediately	ITES breathing, give artifici- tention. f victim ingested or inl nask equipped with a o vater provided person t medical attention. Do elids apart and flush ey and continue flushing onnel.	naled this substance; ne-way valve or oth is conscious. Never NOT induce vomit yes with plenty of water. I nd plenty of water. I	e oxygen by train ; induce artificial aer proper give anything by ing unless direct ater. After initial tes. Have eyes Remove	

# MATERIAL SAFETY DATA SHEET EIA Tracer Dye

	5. Fire Fighting Measures
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH
	approved or equivalent), and full protective gear to prevent contact with skin and eyes.
	Exothermic in contact with water.
Flammable Properties and Hazards:	Emits toxic and corrosive fumes under fire conditions.
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, or dry chemical spray when fighting fires involving
	this material.
	Use extinguishing media appropriate to surrounding fire conditions.
Unquitable Extinguishing Media	DO NOT USE WATER.
Unsuitable Extinguishing Media:	No data available.
	6. Accidental Release Measures
Steps To Be Taken In Case Material Is	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal
Released Or Spilled:	protection (rubber boots, safety goggles, and heavy rubber gloves).
	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. After removal, ventilate contaminated area and flush thoroughly with water.
	7. Handling and Storage
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation
	Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).
	Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
	Do not reuse this container.
	Use with adequate ventilation.
	Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Keep tightly closed.
	Store at correct temperature.
Other Precautions:	Contact with aluminum, tin and zinc liberates hydrogen gas.
	Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitiv
	salts.
8. E>	cposure Controls/Personal Protection
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety
Label Information:	shower in work area Vent Hood
Respiratory Equipment (Specify Type):	Government approved respirator as conditions warrant.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborn levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally.
	Facilities storing or utilizing this material should be equipped with an eyewash facility and a
	safety shower.
	Wash thoroughly after handling.
9.	Physical and Chemical Properties
Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
-	

# MATERIAL SAFETY DATA SHEET EIA Tracer Dye

 Page: 3

 Printed: 11/02/2007

 Revision: 03/09/2006

 Supercedes Revision: 04/28/2005

Autoignition Pt:	No data.
Flash Pt:	No data. Method:
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Corrosion Rate:	No data.
pH:	No data.
Appearance and Odor:	A clear, colorless solution.
	10. Stability and Reactivity
Stability:	Unstable [ ] Stable [ X ]
Conditions To Avoid - Instability:	absorbs carbon dioxide from air
Incompatibility - Materials To Avoid:	chlorinated solvents
	organic materials
	strong acids
	strong oxidizing agents
Hazardous Decomposition Or Byproducts:	No data available.
Hazardous Polymerization:	Will occur []   Will not occur [X]
Conditions To Avoid - Hazardous	No data available.
Polymerization:	
	11. Toxicological Information
Toxicological Information:	The toxicological effects of this compound have not been thoroughly studied.
	NaOH - Irritation Data:
	Eye (monkey): 1%/24H severe
	Skin (rabbit): 500 mg/24H severe Eye (rabbit): 400 ug mild
	Eye (rabbit): 1% severe
	Eye (rabbit): 50 ug/24H severe
	Eye (rabbit): 1mg/24H severe
	Eye (rabbit): 1mg/30S rinse severe
	NaOH - Toxicity Data:
	Intraperitoneal LD50 (mouse): 40 mg/kg
Chronic Toxicological Effects:	Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here
-	See actual entry in RTECS for complete information.
	NaOH RTECS Number: WB4900000
Carcinogenicity/Other Information:	No data available.
Carcinogenicity/Other Information: Carcinogenicity:	No data available. NTP? No IARC Monographs? No OSHA Regulated? No
	NTP? No IARC Monographs? No OSHA Regulated? No
Carcinogenicity:	NTP? No       IARC Monographs? No       OSHA Regulated? No <b>12. Ecological Information</b> Runoff from fire control or dilution water may cause pollution.
Carcinogenicity:	NTP? No       IARC Monographs? No       OSHA Regulated? No         12. Ecological Information

#### MATERIAL SAFETY DATA SHEET EIA Tracer Dye

Page: 4 Printed: 11/02/2007 Revision: 03/09/2006 Supercedes Revision: 04/28/2005

#### 14. Transport Information

	14. Huik	sport milom			
LAND TRANSPORT (US DOT)					
DOT Proper Shipping Name	Sodium hydroxid	e solution			
DOT Hazard Class:	8				
DOT Hazard Label:	CORROSIVE				
UN/NA Number:	UN1824				
Packing Group:	II				
Additional Transport Information:	Transport in acco	rdance with local, s	state, and federal reg	ulations.	
	15. Regul	atory Inform	nation		
US EPA SARA Title III					
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. EIA Tracer Dye	NA	No	No	No	No
2. Sodium hydroxide	1310-73-2	No	Yes 1000 LB	No	No

US EPA CAA, CWA, TSCA						
Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65	
1. EIA Tracer Dye	NA	No	No	No	No	
2. Sodium hydroxide	1310-73-2	No	No	Inventory	No	
16. Other Information						

#### **Company Policy or Disclaimer**

For research use only, not for human or veterinary clinical use.

1. Pr Product Code:				Date Cre	vision: 04/28/2009 eated: 04/04/2009	
Product Code:	oduct and	Company lo	dentification			
	400042					
Product Name:	EIA Antiserum D	ye				
Manufacturer Information						
Company Name:	Cayman Chemica	l Company				
Emergency Contact:	Cayman Chemical Company (800)364-9897					
Information:	Cayman Chemica	l Company	(734)971-3335			
Chemical Family:	EIA - Other					
2. Con	nposition/Ir	formation c	on Ingredien	ts		
lazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limit	
EIA Antiserum Dye	NA		No data.	No data.	No data.	
Sodium chloride	7647-14-5		No data.	No data.	No data.	
azardous Components (Chemical Name) EIA Antiserum Dye	RTECS #	OSHA STEL No data.	OSHA CEIL No data.	No data.	ACGIH CEII No data.	
Sodium chloride	VZ4725000		No data.	No data.	No data.	
					The data.	
		rds Identifica	alion			
Emergency Overview:	No data available.					
Route(s) of Entry:	Inhalation? Yes	-	s? Yes Ingestion	e e	ction	
Potential Health Effects (Acute and Chronic):	-	-				
	May be harmful by inhalation, ingestion, or skin absorption. May cause eye, skin, or respiratory system irritation.					
				een fully evaluated.		
Signs and Symptoms Of Exposure:	No data available.					
	4 First	Aid Measu	res			
Emergency and First Aid Procedures:	If inhaled remove to fresh air. If not breathing, give artificial respiration or give oxygen by train					
	personnel. Get immediate medical attention.					
	If swallowed, 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 direct					
	to do so by medical personnel.					
	In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water. After initial					
	flushings, remove any contact lenses and continue flushing for at least 20 minutes. Have eyes					
	examined and tested by medical personnel. In case of skin contact, immediately wash skin with soap and plenty of water. Remove					
		-	-	and plenty of water. s occur. Wash clothin		
		-		s occur. wash ciounn	ig before reuse.	
Flash Pt:		ghting Mea	Sules			
Explosive Limits:	No data. LEL: No data.		UEL: No data.			
Explosive Limits: Fire Fighting Instructions:				ressure-demand (MSI	14/NIOSH	
				ent contact with skin a		
Flammable Properties and Hazards:	No data available.	-	Sear to prove	Jonate white ball u		
Extinguishing Media:		tant foam, carbon di	oxide, water, or dry	chemical spray when	n fighting fires	
Unsuitable Extinguishing Media:	No data available.					

#### MATERIAL SAFETY DATA SHEET EIA Antiserum Dye

 Page:
 2

 Printed:
 11/02/2007

 Revision:
 09/19/2007

 Supercedes Revision:
 04/28/2005

f	5. Accidental Release Measures
Steps To Be Taken In Case Material Is	Wear a NIOSH/MSHA approved self-contained breathing apparatus and appropriate personal
Released Or Spilled:	protection (rubber boots, safety goggles, and heavy rubber gloves).
	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste contained
	After removal, ventilate contaminated area and flush thoroughly with water.
	7. Handling and Storage
Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation
	Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas).
U	Avoid contact with eyes, skin, and clothing.
	Avoid prolonged or repeated exposure.
	Do not reuse this container.
	Use with adequate ventilation.
	Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.
8. Ex	kposure Controls/Personal Protection
Protective Equipment Summary - Hazard	Eye wash station in work area Lab coat Latex disposable gloves Safety glasses Safety
Label Information:	shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Latex disposable gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airbo
	levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally.
	Facilities storing or utilizing this material should be equipped with an eyewash facility and a
	safety shower.
	Wash thoroughly after handling.
9.	Physical and Chemical Properties
Physical States:	[] Gas [X] Liquid [] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data. Method:
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.
Corrosion Rate:	No data.
	No data.
pH:	
	A clear, colorless solution.
pH:	
pH:	A clear, colorless solution.
pH: Appearance and Odor:	A clear, colorless solution. 10. Stability and Reactivity

# MATERIAL SAFETY DATA SHEET EIA Antiserum Dye

Hazardous Decomposition Or Byproducts:	No data available.				
Hazardous Polymerization:	Will occur [ ]   Will not occur [ X ]				
Conditions To Avoid - Hazardous Polymerization:	No data available				
	11. Toxicol	logical Infor	mation		
Toxicological Information:	The toxicological	effects of this com	pound have not been th	noroughly studied.	
Carcinogenicity/Other Information:	No data available				
Carcinogenicity:	NTP? No IA	RC Monographs?	No OSHA Regula	ted? No	
	12. Ecolo	gical Inforn	nation		
Ecological Information:	Runoff from fire	control or dilution	water may cause pollut	ion.	
	13. Dispos	al Conside	rations		
Waste Disposal Method:	Dispose in accord	lance with local, sta	ate and federal regulation	ons.	
	14. Trans	sport Inform	nation		
LAND TRANSPORT (US DOT)		-			
DOT Proper Shipping Name	No data available				
Additional Transport Information:	Transport in acco	rdance with local,	state, and federal regula	tions.	
	15. Regul	atory Inforr	nation		
US EPA SARA Title III	-				
Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. EIA Antiserum Dye	NA	No	No	No	No
2. Sodium chloride	7647-14-5	No	No	No	No
US EPA CAA, CWA, TSCA					
Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
	NA	No	No	No	No
EIA Antiserum Dye     Sodium chloride					

**Company Policy or Disclaimer** 

For research use only, not for human or veterinary clinical use.