

Revision: 02/26/2019

	Contian 1 Id	ontification of the Substa	nco/Mixturo and a	f the Company/	ndortaking				
	Section 1. Id	entification of the Substan	nce/iviixture and o	i the Company/U	пиепакіпу				
.1	Product Code:	25829							
	Product Name:	MAP1LC3B/LC3B (huma							
	Synonyms:		otein LC3B; Autophagy-related Ubiquitin-like Modifier LC3B; MAP1 Ligh						
		Chain 3-like Protein 2; M 3.beta.;	rotein 2; MAP1A/MAP1B LC3B; Microtubule-associated Protein 1 Light Chain						
.2	Relevant identified uses of t	he substance or mixture	and uses advised	against:					
	Relevant identified uses:	For research use only, n	ot for human or vet	erinary use.					
1.3	Details of the Supplier of the	e Safety Data Sheet:							
	Company Name:	Cayman Chemical Com	pany						
		1180 E. Ellsworth Rd.							
		Ann Arbor, MI 48108							
	Web site address:	www.caymanchem.com							
	Information:	Cayman Chemical Com	pany	+1 (73	4)971-3335				
1.4	Emergency telephone numb								
	Emergency Contact:	CHEMTREC Within USA			00)424-9300				
		CHEMTREC Outside US	SA and Canada:	+1 (70	03)527-3887				
		Section 2. Ha	zards Identif	ication					
2.1	Classification of the Substa	nce or Mixture:							
2.2	Label Elements:								
	GHS Signal Word:	None							
	-								
	GHS Hazard Phrases:								
		ently available data this sub	stance or mixture is	s not classifiable ad	ccording to GHS.				
	Based on evaluation of curr	ently available data this sub	ostance or mixture is	s not classifiable ad	ccording to GHS.				
	Based on evaluation of current GHS Precaution Phrases:	ently available data this sub	ostance or mixture is	s not classifiable ad	ccording to GHS.				
	Based on evaluation of curre GHS Precaution Phrases: No phrases apply.	ently available data this sub	ostance or mixture is	s not classifiable a	ccording to GHS.				
	Based on evaluation of curr GHS Precaution Phrases: No phrases apply. GHS Response Phrases:	ently available data this sub	ostance or mixture is	s not classifiable ad	ccording to GHS.				
	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply.		ostance or mixture is	s not classifiable a	ccording to GHS.				
	Based on evaluation of curr GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa	Il Phrases:			ccording to GHS.				
	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for	Il Phrases: Storage and Section 13 fo	r Disposal informati	on.					
2.3	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health	I <b>I Phrases:</b> Storage and Section 13 fo Naterial may be irritating to	r Disposal informati the mucous membr	on. anes and upper res					
2.3	Based on evaluation of current GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health Effects and Symptoms:	Il Phrases: Storage and Section 13 fo Naterial may be irritating to Nay be harmful by inhalation	r Disposal informati the mucous membr n, ingestion, or skin	on. anes and upper re absorption.					
2.3	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health Effects and Symptoms:	Il Phrases: Storage and Section 13 fo Naterial may be irritating to Nay be harmful by inhalation Nay cause eye, skin, or resp	r Disposal informati the mucous membr n, ingestion, or skin biratory system irrita	on. anes and upper res absorption. ation.					
2.3	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health Effects and Symptoms: N T	Il Phrases: Storage and Section 13 fo Naterial may be irritating to Nay be harmful by inhalation Nay cause eye, skin, or resp	r Disposal informati the mucous membr n, ingestion, or skin biratory system irrita e, the toxicological	on. anes and upper res absorption. ation. properties have no	spiratory tract. t been thoroughly investigated				
	Based on evaluation of curr GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health Effects and Symptoms: N Sectio	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge on 3. Composition	r Disposal informati the mucous membr n, ingestion, or skin biratory system irrita e, the toxicological <b>n/Information</b>	on. anes and upper rea absorption. ation. properties have no on Ingredie	spiratory tract. t been thoroughly investigated <b>nts</b>				
CAS	Based on evaluation of curr GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health Effects and Symptoms: N Sectio	I Phrases: Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp to the best of our knowledge on 3. Composition ments (Chemical Name)/	r Disposal informati the mucous membr n, ingestion, or skin biratory system irrita e, the toxicological	on. anes and upper res absorption. ation. properties have no	spiratory tract. t been thoroughly investigated				
CAS RTE	Based on evaluation of current GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M T Section # / Hazardous Component	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin biratory system irrita e, the toxicological <b>n/Information</b>	on. anes and upper res absorption. ation. properties have no On Ingredie EC No./	spiratory tract. t been thoroughly investigated <b>nts</b>				
CAS RTE NA	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health Effects and Symptoms: M T Section # / CS # Hazardous Compon REACH Registration	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological n/Information	on. anes and upper rea absorption. ation. properties have no On Ingredie EC No./ EC Index No.	spiratory tract. t been thoroughly investigated <b>NtS</b> GHS Classification				
CAS RTE NA NA 752	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M T Section # / CS # Hazardous Compor REACH Registratio MAP1LC3B/LC3B (hum 77-39-3 Hepes, sodium salt	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological n/Information	on. anes and upper re- absorption. ation. properties have no ON Ingredie EC No./ EC Index No. NA	spiratory tract. t been thoroughly investigated <b>NtS</b> GHS Classification				
CAS RTE NA NA 752	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M T Section # / CS # Hazardous Comport REACH Registratio MAP1LC3B/LC3B (hum	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological n/Information Concentration > 0.1 %	on. anes and upper rea absorption. ation. properties have no On Ingredie EC No./ EC Index No. NA NA	spiratory tract. t been thoroughly investigated <b>NtS</b> GHS Classification No data available.				
CAS RTE NA 752 NA 764	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M Effects and Symptoms: M T Section # / CS # Hazardous Compor REACH Registratio MAP1LC3B/LC3B (hum 01-2120747736-43 7-14-5 Sodium chloride	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological n/Information Concentration > 0.1 %	on. anes and upper re- absorption. ation. properties have no ON Ingredie EC No./ EC Index No. NA NA NA 278-169-7	spiratory tract. t been thoroughly investigated <b>NtS</b> GHS Classification No data available. No GHS classifications apply				
NA NA 752 NA 764	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M T Section # / CS # Hazardous Compor REACH Registratio MAP1LC3B/LC3B (hum 77-39-3 Hepes, sodium salt 01-2120747736-43	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological <b>D/Information</b> <b>Concentration</b> > 0.1 % 1.19 %	on. anes and upper res absorption. ation. properties have no ON Ingredie EC No./ EC Index No. NA NA 278-169-7 NA	spiratory tract. t been thoroughly investigated <b>NtS</b> GHS Classification No data available.				
CAS RTE NA 752 NA 764 VZ47 56	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M Effects and Symptoms: M T Section # / CS # Hazardous Compose REACH Registration MAP1LC3B/LC3B (hum 77-39-3 Hepes, sodium salt 01-2120747736-43 7-14-5 Sodium chloride 01-2119485491-33 -81-5 Glycerol	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological <b>D/Information</b> <b>Concentration</b> > 0.1 % 1.19 %	on. anes and upper res absorption. ation. properties have no On Ingredie EC No./ EC Index No. NA NA 278-169-7 NA 231-598-3	spiratory tract. t been thoroughly investigated <b>NtS</b> GHS Classification No data available. No GHS classifications apply				
CAS RTE NA 752 NA 764 VZ47 56	Based on evaluation of curre GHS Precaution Phrases: No phrases apply. GHS Response Phrases: No phrases apply. GHS Storage and Disposa Please refer to Section 7 for Adverse Human Health M Effects and Symptoms: M T Section # / CS # Hazardous Compor REACH Registratio MAP1LC3B/LC3B (hum 77-39-3 Hepes, sodium salt 01-2120747736-43 .7-14-5 Sodium chloride 01-2119485491-33	I Phrases: T Storage and Section 13 fo Material may be irritating to May be harmful by inhalation May cause eye, skin, or resp To the best of our knowledge On 3. Composition nents (Chemical Name)/ n No.	r Disposal informati the mucous membr n, ingestion, or skin piratory system irrita e, the toxicological <b>n/Information</b> <b>Concentration</b> > 0.1 % 1.19 % 0.88 %	on. anes and upper res absorption. ation. properties have no ON Ingredie EC No./ EC Index No. NA 278-169-7 NA 231-598-3 NA	spiratory tract. t been thoroughly investigated <b>nts</b> <b>GHS Classification</b> No data available. No GHS classifications appl No GHS classifications appl				

Multi-region format



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1	10000 na	NA	
	•	Section 4. First Aid Measures	
4.1	Description of First Aid		
	Measures:		
	In Case of Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained	d personnel.
		Get immediate medical attention.	
	In Case of Skin Contact:	Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove	contaminated
		clothing. Get medical attention if symptoms occur. Wash clothing before reuse.	
	In Case of Eye Contact:	Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have ey and tested by medical personnel.	es examined
	In Case of Ingestion:	Wash out mouth with water provided person is conscious. Never give anything by mou	uth to an
	-	unconscious person. Get medical attention. Do NOT induce vomiting unless directed t	
		medical personnel.	
		Section 5. Fire Fighting Measures	
5.1	Suitable Extinguishing	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.	
	Media:	Use water spray to cool fire-exposed containers.	
	Unsuitable Extinguishing Media:	g A solid water stream may be inefficient.	
5.2	Flammable Properties an	ndNo data available.	
	Hazards:		
		No data available.	
	Flash Pt:	No data.	
	Explosive Limits:	LEL: No data. UEL: No data. No data.	
5.3	Autoignition Pt:	s: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH app	proved or
5.5	Fire Fighting instructions	equivalent), and full protective gear to prevent contact with skin and eyes.	
		Section 6. Accidental Release Measures	
<b>6</b> .1	Protective Precautions,	Avoid raising and breathing dust, and provide adequate ventilation.	
0.1	Protective Equipment and		or respirator,
	Emergency Procedures:		gloves).
6.2	Environmental	Take steps to avoid release into the environment, if safe to do so.	
	Precautions:		
6.3		r Contain spill and collect, as appropriate.	
		ngTransfer to a chemical waste container for disposal in accordance with local regulatio	ns.
	Up:		
		Section 7. Handling and Storage	
7.1		Avoid breathing dust/fume/gas/mist/vapours/spray.	
	in Handling:	Avoid prolonged or repeated exposure.	
7.2		Keep container tightly closed. Store in accordance with information listed on the product insert	
	in Storing:	Store in accordance with information listed on the product insert.	
		Multi	i-region format



3.1	Exposure Parameters:				
CAS #	Chemical Name		Jurisdiction	Recommended Exposure Limits	Notations
56-81	-5 Glycerol		ACGIH TLV	TLV: 10 mg/m3	
			France VL	TWA: 10 mg/m3	
			OSHA PELs	PEL: 15 (dust); 5 (resp.) mg/m3	
			Britain EH40	TWA: 10 mg/m3 ()	
3.2	Exposure Controles			STEL: ()	
	Exposure Controls:		raaaaa analaauraa laa	al exhaust ventilation, or other engineering centre	la ta control airba
3.2.1	Engineering Controls	-	below recommended	al exhaust ventilation, or other engineering contro	
	(Ventilation etc.):			exposure infins.	
3.2.2	Personal protection equip				
	Eye Protection:	-	/ glasses	nt elevice	
	Protective Gloves:		atible chemical-resista	nt gloves	
	Other Protective Clothing				
	Respiratory Equipment	NIOS	H approved respirator,	as conditions warrant.	
	(Specify Type):	_			
	Work/Hygienic/Maintenan				
	ce Practices:			his material should be equipped with an eyewash	and a safety sho
			thoroughly after handl	ing.	
		No da	ta available.		
	S	ectio	n 9. Physical a	and Chemical Properties	
9.1	Information on Basic Phys	sical a	nd Chemical Propertie	es	
	Physical States:		[]Gas [X]Liqu	uid [] Solid	
	Appearance and Odor:		50 mM HEPES, pH 8	3.0, 150 mM sodium chloride, and 10% glycerol	
	pH:		8.0		
	Melting Point:		No data.		
	Boiling Point:		No data.		
	Flash Pt:		No data.		
	Evaporation Rate:		No data.		
	Flammability (solid, gas):		No data available.		
	Explosive Limits:		LEL: No data.	UEL: No data.	
	Vapor Pressure (vs. Air o	r mm	No data.		
	Hg):				
	Vapor Density (vs. Air = 1	):	No data.		
	Specific Gravity (Water =	1):	No data.		
	Solubility in Water:		No data.		
	Octanol/Water Partition		No data.		



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Decomposition Temperature:   No data.     Viscosity:   No data.     9.0   Other Information     Percent Volatile:   No data.     10.1   Reactivity:   No data available.     10.2   Stability:   Unstable []     10.3   Stability:   Unstable []     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   Will occur []     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   To Avoid:     10.4   Bezordous   Carbon dioxide     Decomposition or   carbon monoxide     Byproducts:   E     Cection 11. Toxicological Information     11.1   Information on Toxicological Effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.   n.a.		Autoian	ition Pt:	No data.						
Viscosity:   No data.     9.2   Other Information Percent Volatile:   No data.     9.2   Cher Information Percent Volatile:   No data.     10.1   Reactivity:   No data available.     10.2   Stability:   Unstable [] Stable [X]     10.3   Stability:   Unstable [] Stable [X]     10.3   Stability:   Unstable [] Stable [X]     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   In outpatibility - Materials strong oxidizing agents     10.6   Hazardous   carbon dioxide   Decomposition or carbon monoxide     Byproducts:   Section 11. Toxicological Information   Toxicological Effects     11.1   Information on Toxicological Effects:   The toxicological effects of this product have not been thoroughly studied.     75277.9-3   Hepes, sodium salt   n.a.   n.a.   n.a.     7647-14-5   Sodium caloride   n.a.   n.a.   n.a.     7732-18-5   Valer   n.a.   n.a.   n.a.   n.a.     7732-18-5   Glycerol   n.a.   n.a.   n.a.   n.a.		-								
9.2 Other Information Percent Volatile:   No data.     Section 10. Stability and Reactivity     10.1 Reactivity:   No data available.     10.2 Stability Note(s):   Stable if stored in accordance with information listed on the product insert. Polymerization:   Will occur []   Stable [X]     10.3 Stability Note(s):   Stable if stored in accordance with information listed on the product insert. Polymerization:   Will occur []   Will not occur [X]     10.4 Conditions To Avoid:   No data available.   Stability - Materials strong oxidizing agents To Avoid:   Notata available.     10.5 Incompatibility - Materials strong oxidizing agents To Avoid:   Notata available.   Section 11. Toxicological Information     11.1 Information on Toxicological Effects:   Section 11. Toxicological Information   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   Avoid release into the environment. Ruoff from fire control or dilution water may cause pollution.   N.a.		-	-							
Percent Volatile: No data.     Section 10. Stability and Reactivity     10.1   Reactivity: No data available.     10.2   Stability: Unstable [] Stable [X]     10.3   Stability: Stable if stored in accordance with information listed on the product insert. Polymerization: Will occur [] Will not occur [X]     10.4   Conditions To Avoid: No data available.   Will not occur [X]     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   Section 11. Toxicological Information     The toxicological Effects     Section 11. Toxicological Information     Toxicological Effects     CAS # Mazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAPILC3B/LC3B/LG3B (human recombinant)   n.a.   n.a.   n.a.   n.a.   n.a.     Section 12. Ecological Information     Toxicological Effects     Section 12. Ecological Information     Na   Na   Mapericase into the environment. Ruoff from fire control or dilution water may cause pollution.     Section 12. Ecological Information     Toxiciclese and No data available.     Degradability:	92		-	no data.						
Section 10. Stability and Reactivity     10.1   Reactivity:   No data available.     10.2   Stability:   Unstable []   Stability     10.3   Stability Note(s):   Stable if stored in accordance with information listed on the product insert.     Polymerization:   Will occur []   Will not occur [X]     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   To Avoid:     10.6   Hazardous   carbon dioxide     Decomposition or   carbon monoxide     Byproducts:   Section 11. Toxicological Information     11.1   Information on Toxicological Effects:   NTP     CAS #   Hazardous Components (Chemical Name)   NTP     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.     7732-18-5   Glycerol   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   No data available.   Na.   n.a.   n.a.   n.a.     12.1   Toxicity:   Avoid release	5.2			No data.						
10.1   Reactivity:   No data available.     10.2   Stability:   Unstable []   Stable [X]     10.3   Stability Note(s):   Stable if stored in accordance with information listed on the product insert. Polymerization:   Will occur []     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   Carbon dioxide     Decomposition or   carbon monoxide Byproducts:   Section 11. Toxicological Information     11.1   Information on Tote toxicological Effects:   Toxicological Effects:   NTP     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Glycerol   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.   12.   Persistence and No data available.   No data available.     Potential:   12.4					wood Depati	<i></i>				
10.2   Stability:   Unstable [] Stable [X]     10.3   Stability Note(s):   Stable if stored in accordance with information listed on the product insert.     Polymerization:   Will occur []   Will not occur [X]     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   No data available.     10.6   Hazardous   carbon dioxide     Decomposition or   carbon monoxide     Byproducts:   Section 11. Toxicological Information     11.1   Information on Toxicological Effects:   The toxicological effects of this product have not been thoroughly studied.     Toxicological Effects:   Sodium chloride   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.     7547-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.     6-84-5   Glycerol   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   No data available.   Degradability:   Ital recortor or dilution water may cause pollution.     12.   Persistence and Degradability:   No data available.   No data avail					y and Reacting	vity				
10.3   Stability Note(s):   Stable if stored in accordance with information listed on the product insert.     Polymerization:   Will occur [ ]   Will not occur [ X ]     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   No data available.     10.6   Hazardous   carbon dioxide Becomposition or carbon monoxide   Section 11. Toxicological Information     11.1   Information on Toxicological Effects:   The toxicological effects of this product have not been thoroughly studied.     705277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.     7047-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.   I.a.   n.a.   n.a.   n.a.     12.1   Toxicity:   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.   I.a.   n.a.   n.a.   n.a.     12.1   Degradability:   No data available.   Degradability:   No data available.   I.a.   I.a.   I.a.   I.a.     12.2 <th></th> <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th>			-							
Polymerization:   Will occur[]   Will not occur[X]     10.4   Conditions To Avoid:   No data available.     10.5   Incompatibility - Materials strong oxidizing agents To Avoid:   Incompatibility - Materials strong oxidizing agents To Avoid:     10.6   Hazardous   carbon dioxide Decomposition or   carbon monoxide Byproducts:     Section 11. Toxicological Information     11.1   Information on Toxicological Effects:   The toxicological effects of this product have not been thoroughly studied.     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.     7732-18-5   Glycerol   n.a.   n.a.   n.a.   n.a.     12.1   Toxicity:   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.   12.2     12.2   Persistence and Degradability:   No data available.   12.3   Bioaccumulative No data available.   12.4		-								
10.4 Conditions To Avoid:   No data available.     10.5 Incompatibility - Materials strong oxidizing agents To Avoid:   Carbon dioxide     10.6 Hazardous   carbon dioxide     Decomposition or   carbon monoxide     Byproducts:   Section 11. Toxicological Information     11.1 Information on Tot toxicological Effects:   The toxicological effects of this product have not been thoroughly studied.     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.     75277.39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   Noidt release into the environment.   n.a.   n.a.   n.a.   n.a.     12.1   Toxicity:   Avoid release into the environment.   Runoff from fire control or dilution water may cause pollution.   12.2   Persistence and No data available.   No data available.   12.4   Mobility in Soil:   No data available.   12.4   Mobility in Soil:	10.3					on the product	insert.			
10.5   Incompatibility - Materials strong oxidizing agents To Avoid:     10.6   Hazardous   carbon dioxide Decomposition or Byproducts:     10.6   Hazardous   carbon monoxide Byproducts:     Section 11. Toxicological Information     The toxicological effects of this product have not been thoroughly studied. Toxicolgical Effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   in.a.   n.a.   n.a.   n.a.     Section 12. Ecological Information     Section 12. Ecological Information.     Iter Section 12. Ecological Information.     Iter Section 12. Ecological Information.     Section 12. Ecological Information.     Iter Section 12. Ecological Information.     Iter Section 12. Ecological Information.     Iter Section 12. Ecologic		-			X					
To Avoid:     10.6   Hazardous   carbon dioxide     Decomposition or   carbon monoxide     Byproducts:   Section 11. Toxicological Information     The toxicological effects of this product have not been thoroughly studied.     Toxicological Effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC38/LC38 (human recombinant)   n.a.   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   void release into the environment.   Runoff from fire control or dilution water may cause pollution.   n.a.   n.a.   n.a.     12.1   Toxicity:   Avoid release into the environment.   Runoff from fire control or dilution water may cause pollution.   Item set	-									
10.6   Hazardous carbon dioxide carbon monoxide gyproducts:     Section 11. Toxicological Information     11.1   Information on The toxicological effects of this product have not been thoroughly studied. Toxicological Effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.	10.5			s strong oxidizing agents						
Decomposition or Byproducts:   carbon monoxide     Section 11. Toxicological Information     Information on Toxicological effects of this product have not been thoroughly studied. Toxicolucital Effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC38/LC38 (human recombinant)   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.     75277-39-3   Hepes, sodium salt   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7647-14-5   Sodium chloride   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   .   n.a.   n.a.   n.a.   n.a.     Legensitemer and Modifier from fire control or dilution water may cause pollution.     L2   Persistemer and Modifier from fire control or dilution water may cause pollution.     L2     Legensitemer and Modifier from fire control or dilution water may cause pollution.     L2     Potential:     Lagensite in the ava	10.6			carbon dioxide						
Byproducts:     Section 11. Toxicological Information     Toxicological effects of this product have not been throughly studied. Toxicological effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.     Yater   Yater   Not data available.     Toxicity:   Avoid release into the environment.   Runoff from fire control or dilution water may cause pollution.     12   Mobility in Soil: <th c<="" th=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
The toxicological effects of this product have not been thoroughly studied.     Toxicological Effects:     CAS # Hazardous Components (Chemical Name) NTP IARC ACGIH OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a. <th></th> <th>-</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>		-								
The toxicological effects of this product have not been thoroughly studied.     Toxicological Effects:     CAS # Hazardous Components (Chemical Name) NTP IARC ACGIH OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a. <th></th> <th></th> <th></th> <th>Section 11. Toxicolo</th> <th>ogical Informa</th> <th>ation</th> <th></th> <th></th>				Section 11. Toxicolo	ogical Informa	ation				
Toxicological Effects:     CAS #   Hazardous Components (Chemical Name)   NTP   IARC   ACGIH   OSHA     NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a. </th <td>11.1</td> <td>Informa</td> <td>tion on</td> <td></td> <td></td> <td></td> <td>udied.</td> <td></td>	11.1	Informa	tion on				udied.			
CAS #Hazardous Components (Chemical Name)NTPIARCACGIHOSHANAMAP1LC3B/LC3B (human recombinant)n.a.n.a.n.a.n.a.n.a.n.a.75277-39-3Hepes, sodium saltn.a.n.a.n.a.n.a.n.a.n.a.7647-14-5Sodium chloriden.a.n.a.n.a.n.a.n.a.n.a.7647-14-5Sodium chloriden.a.n.a.n.a.n.a.n.a.n.a.7647-14-5Sodium chloriden.a.n.a.n.a.n.a.n.a.n.a.7647-14-5Sodium chloriden.a.n.a.n.a.n.a.n.a.n.a.7647-14-5Sodium chloriden.a.n.a.n.a.n.a.n.a.n.a.56-81-5Glyceroln.a.n.a.n.a.n.a.n.a.n.a.7732-18-5WaterNatern.a.n.a.n.a.n.a.Section 12. Ecological InformationInterview of release into the environment. Runoff from fire control or dilution water may cause pollution.12.2 Persistence and Degradability:No data available. Potential:No data available.Potential:12.4 Mobility in Soil:No data available.No data available.Section 12. Ecological InformationInterview of PBT and vPvBNo data available.Section 12						, , , , , , , , , , , , , , , , , , ,				
NA   MAP1LC3B/LC3B (human recombinant)   n.a.   n.a. <th>CAS</th> <th></th> <th>- +</th> <th>ponents (Chemical Name)</th> <th>NTP</th> <th>IARC</th> <th>ACGIH</th> <th>OSHA</th>	CAS		- +	ponents (Chemical Name)	NTP	IARC	ACGIH	OSHA		
75277-39-3   Hepes, sodium salt   n.a.   ta.   t.a.   t.a.								_		
56-81-5   Glycerol   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.     7732-18-5   Water   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.   n.a.     Section 12. Ecological Information     Section 12. Ecological Information     Item colspan="4">Item colspan="4"Item colspan="4"  Item colspan="4"	752			· ·	n.a.	n.a.		n.a.		
7732-18-5   Water   n.a.   n.a.   n.a.   n.a.   n.a.     Section 12. Ecological Information     12.1 Toxicity: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.     12.2   Persistence and Degradability:   No data available.     Degradability:   12.3   Bioaccumulative No data available.     Potential:   No data available.   12.4     Mobility in Soil:   No data available.   12.5     Results of PBT and vPvB   No data available.   12.5	764	7-14-5	Sodium chloride		n.a.	n.a.	n.a.	n.a.		
Section 12. Ecological Information     12.1   Toxicity:   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.     12.2   Persistence and Degradability:   No data available. Degradability:     12.3   Bioaccumulative Potential:   No data available.     12.4   Mobility in Soil:   No data available. No data available.     12.5   Results of PBT and vPvB   No data available. No data available.	56	6-81-5	Glycerol		n.a.	n.a.	n.a.	n.a.		
12.1   Toxicity:   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.     12.2   Persistence and Degradability:   No data available.     12.3   Bioaccumulative Potential:   No data available.     12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.     assessment:   No data available.	773	32-18-5	Water		n.a.	n.a.	n.a.	n.a.		
12.1   Toxicity:   Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.     12.2   Persistence and Degradability:   No data available.     12.3   Bioaccumulative Potential:   No data available.     12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.     assessment:   No data available.				Section 12, Ecolor	nical Informat	ion				
12.2   Persistence and Degradability:   No data available.     12.3   Bioaccumulative Potential:   No data available.     12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.	12.1	Toxicity	:							
Degradability:     12.3   Bioaccumulative Potential:   No data available.     12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.     assessment:   Volta available.		-		Runoff from fire control or dilution	water may cause po	ollution.				
12.3   Bioaccumulative   No data available.     Potential:   No data available.     12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.     assessment:   No data available.	12.2	Persiste	ence and	No data available.						
Potential:     12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.     assessment:   No data available.		Degrada	ability:							
12.4   Mobility in Soil:   No data available.     12.5   Results of PBT and vPvB   No data available.     assessment:   No data available.	12.3	Bioaccu	Imulative	No data available.						
12.5 Results of PBT and vPvB No data available. assessment:		Potentia	al:							
assessment:	12.4	Mobility	in Soil:	No data available.						
	12.5	Results	of PBT and vPvB	No data available.						
12.6 Other adverse effects: No data available.		assessment:								
	12.6	Other adverse effects:		No data available.						

Multi-region format



Revision: 02/26/2019

04	Newsel Methods Disease is second-up 1971	المعالمة وتتعالمه	I no su do ti s	
13.1 Waste I	Disposal Method: Dispose in accordance with log			
	Section 14. Trar	nsport Informa	ation	
14.1 LAND	TRANSPORT (US DOT):			
DOT Prop	er Shipping Name: Not dangerous goods.			
DOT Haza				
UN/NA Nu	mber:			
	TRANSPORT (European ADR/RID):			
	Shipping Name: Not dangerous goods.			
UN Numbe Hazard Cla				
	ANSPORT (ICAO/IATA): A Shipping Name: Not dangerous goods.			
Additional Tra		local state and fede	ral regulations	
Information:		וטטמו, סנמופ, מווע ופעפ		
	Section 15 Deau	latory Inform	ation	
	Section 15. Regu	-	ation	
	uperfund Amendments and Reauthorization Act	t of 1986) Lists		
CAS #	uperfund Amendments and Reauthorization Act Hazardous Components (Chemical Name)	t of 1986) Lists S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
CAS #	uperfund Amendments and Reauthorization Act Hazardous Components (Chemical Name) MAP1LC3B/LC3B (human recombinant)	t of 1986) Lists S. 302 (EHS) No	<b>S. 304 RQ</b> No	No
CAS # NA 75277-39-3	uperfund Amendments and Reauthorization Act Hazardous Components (Chemical Name) MAP1LC3B/LC3B (human recombinant) Hepes, sodium salt	t of 1986) Lists S. 302 (EHS) No No	<b>S. 304 RQ</b> No No	No No
CAS # NA 75277-39-3 7647-14-5	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride	t of 1986) Lists S. 302 (EHS) No No No	S. 304 RQ       No       No       No       No	No No No
CAS # NA 75277-39-3 7647-14-5 56-81-5	uperfund Amendments and Reauthorization Act Hazardous Components (Chemical Name) MAP1LC3B/LC3B (human recombinant) Hepes, sodium salt Sodium chloride Glycerol	t of 1986) Lists       S. 302 (EHS)       No       No       No       No       No       No	S. 304 RQ       No       No       No       No       No       No	No No No No
CAS # NA 75277-39-3 7647-14-5	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride	t of 1986) Lists S. 302 (EHS) No No No	S. 304 RQ       No       No       No       No	No No No
CAS # NA 75277-39-3 7647-14-5 56-81-5 7732-18-5 CAS #	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride     Glycerol     Water     Hazardous Components (Chemical Name)	t of 1986) Lists S. 302 (EHS) No No No No No Other US EPA o	S. 304 RQ       No       No       No       No       No       No       No       State Lists	NoNoNoNoNo
CAS # NA 75277-39-3 7647-14-5 56-81-5 7732-18-5	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride     Glycerol     Water	t of 1986) Lists S. 302 (EHS) No No No No No Other US EPA o	S. 304 RQ       No       No       No       No       No       No       No       State Lists	No No No No
CAS # NA 75277-39-3 7647-14-5 56-81-5 7732-18-5 CAS #	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride     Glycerol     Water     Hazardous Components (Chemical Name)	t of 1986) Lists S. 302 (EHS) No No No No No Other US EPA o CAA HAP,ODC: PROP.65: No	S. 304 RQ No No No No r State Lists No; CWA NPDES	No No No No : No; TSCA: No; CA
CAS # NA 75277-39-3 7647-14-5 56-81-5 7732-18-5 CAS # NA	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride     Glycerol     Water     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)	t of 1986) Lists S. 302 (EHS) No No No No No Other US EPA o CAA HAP,ODC: PROP.65: No CAA HAP,ODC: Inventory; CA P	S. 304 RQ     No     No     No     No     No     r State Lists     No; CWA NPDES     No; CWA NPDES     ROP.65: No     No; CWA NPDES	No No No No No : No; TSCA: No; CA : No; TSCA: Yes -
CAS # NA 75277-39-3 7647-14-5 56-81-5 7732-18-5 CAS # NA 75277-39-3	uperfund Amendments and Reauthorization Act     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride     Glycerol     Water     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt     Sodium chloride     Glycerol     Water     Hazardous Components (Chemical Name)     MAP1LC3B/LC3B (human recombinant)     Hepes, sodium salt	t of 1986) Lists S. 302 (EHS) No No No No No Other US EPA o CAA HAP,ODC: PROP.65: No CAA HAP,ODC: Inventory; CA P CAA HAP,ODC: Inventory; CA P	S. 304 RQ     No     No     No     No     No     r State Lists     No; CWA NPDES     ROP.65: No     No; CWA NPDES     ROP.65: No     No; CWA NPDES     ROP.65: No     No; CWA NPDES	No       No       No       No       No       No       No       No       No       No; TSCA: No; CA       : No; TSCA: Yes -       : No; TSCA: Yes -



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	Section 16. Other Information
Revision Date:	02/26/2019
Additional Information About	No data available.
This Product:	
Company Policy or Disclaimer:	DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.