SR-LEHD-FMK SDS; Doc# F17-678-4-E; Effective: 09/27/2017; Supersedes: F17-678-5-D; Page 1 of 6



SAFETY DATA SHEET (SDS) according to Regulation (EC) No. 830/2015 amending 1907/2006

1.1	on 1: Identification of the su Product identifier:		SR-LEHD-FMK		
1.1a	Other means of identification:				
1.1b	Alternative produ	ct name(s)/ synonyms:		ed caspase-9 inhibitor reagent; a sulforhodamine-B	
		<u> </u>		ylglutamylhistidylaspartic acid fluoromethyl ketone.	
1.1c	Product number/0		6145		
1.1d	Internal identification		SR-LEHD-FMK		
1.2	Relevant identified uses of mixture and uses advised		For research use o	nly. Not for use in diagnostic procedures.	
1.2a	Brief description of what the			hibitor and apoptosis detection reagent.	
1.za	intended to do:	substance of mixture is		inibitor and apoptosis detection reagent.	
1.3	Details of the supplier of t	he SDS:			
1.3a	Name:			Technologies, LLC (ICT)	
1.3b	Address:		9401 James Avenu		
1.3c	City, State, Zip, C	Cuptry	Bloomington, MN 5		
1.3d	Phone number:	ountry	1-800-829-3194 an		
1.3e	Fax number:		952-888-8988		
1.3f	Website:		www.immunochem	istry com	
1.3g	Email:		help@immunochen		
1.3h	Contact person a	t ICT:	Quality Documenta		
1.4	Emergency telephone nur			94 (USA & Canada) or 952-888-8788 world wide;	
				h-5 pm central time USA, Monday through Friday	
). Chemtrec 24-hour access within USA and	
			Canada: 1-800-424	I-9300 or +1 703-527-3887. Collect calls accepted.	
Sectio	on 2: Hazards identification				
2.1	Classification of the subs	tance or mixture:			
2.1a	Product is a:		Substance.		
2.1b	Classification according to (EC) No. 1272/2008	Does not meet the	criteria for classification.	
	{CLP}:				
2.1c	The most important adverse	physiochemical, human	Refer to Sections 9	-12.	
	health, and environmental effects:				
2.2	Label elements:		None.		
2.2a	GHS label elements, includ	ng precautionary	None.		
	statements:				
2.2b	Contains:		None.		
2.2c	Labeling in accordance with		None.		
2.2d	Hazard Pictograms (Hazard	Symbols):	None.		
2.2e	Signal word:		None.		
2.2f	Hazard statements:		None.		
2.2g	Precautionary statements:		None.		
2.2h	Supplementary precaution s	statements:	None.		
2.3	Other hazards:		No additional inform	nation available.	
2.3a	Does the chemical meet the		Not applicable.		
2.3b	Other hazards which do not	result in classification:	No information ava	ilable.	
	on 3: Composition/informati	on on ingredients	Τ		
3.1	Substance:		Item is a substance	3.	
	3.1a Chemical identity:		SR-LEHD-FMK		
	3.1b Common name, synon	yms, etc.:	None.		
	3.1c CAS number and		<u>3.1e %</u>	3.1f Classification according to (EC) No.	
	other unique identifiers:	3.1d EC number:	Concentration:	<u>1272/2008 {CLP}:</u>	
	None.	None.	100%	Not classified.	
			Т		
			None known.		
3.1g	Chemical identity of any imp		Nono known.		
3.1g	or individual constituent oth	er than the main			
3.1g	or individual constituent oth constituent, which is itself c	er than the main lassified and which			
3.1g	or individual constituent oth constituent, which is itself c contributes to the classificat	er than the main lassified and which tion (such as product			
	or individual constituent oth constituent, which is itself c contributes to the classificat identifier, trade name, ident	er than the main lassified and which tion (such as product ification numbers):			
3.1g 3.1h	or individual constituent oth constituent, which is itself c contributes to the classificat	er than the main lassified and which tion (such as product ification numbers):	None.		
	or individual constituent oth constituent, which is itself c contributes to the classificat identifier, trade name, ident	er than the main lassified and which tion (such as product ification numbers):			

Sectio	on 4: First aid measures	
4.1	Description of first aid measures:	If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before reuse. Never give anything by mouth to an unconscious person.
4.1a	Inhalation:	Due to the small packaging the risk of inhalation is minimal. Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
4.1b	Skin contact:	Wash skin thoroughly with soap and water for several minutes; continue to rinse for at least 15 minutes. Remove any contaminated clothing and shoes and wash thoroughly before reuse. Get medical attention if any discomfort continues.
4.1c	Eye contact:	Promptly wash eyes with plenty of water while lifting the eyelids. Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
4.1d	Ingestion:	NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if any discomfort continues.
4.2	Most important symptoms and effects, both acute and delayed:	•
4.2a	Inhalation:	May cause coughing or mild irritation.
4.2b	Skin contact:	Prolonged skin contact may cause mild irritation.
4.2c	Eye contact:	May cause temporary eye irritation.
4.2d 4.3	Ingestion: Indication of any immediate medical attention and	May cause discomfort if swallowed. No specific first aid measures noted, but first aid may still be required
	special treatment needed:	in case of accidental exposure, inhalation, or ingestion of this product. If in doubt, get medical attention promptly!
4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal protective equipment.
Sectio	on 5: Firefighting measures	
5.1	Extinguishing media:	Use fire-extinguishing media appropriate for the surrounding materials.
5.1a	Suitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide.
5.1b	Unsuitable extinguishing media:	None known.
5.2	Special hazards arising from the substance or mixture:	Product is not explosive. No dangerous reactions known under normal conditions of use.
5.2a	Hazardous combustion products:	In case of fire, toxic gases may be formed of carbon monoxide (CO), carbon dioxide (CO ₂ ; CO _x). None under normal conditions.
5.2b	Unusual fire & explosion hazards:	No unusual fire or explosion hazards noted.
5.2c 5.3	Protective measures in fire: Advice for firefighters:	Use protective equipment appropriate for surrounding materials. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
5.3a	Special firefighting procedures:	No specific firefighting procedure given.
5.3b	Special protective equipment and precautions for firefighters:	Wear full protective clothing, including self-contained breathing apparatus, if necessary. The product presents no special fire hazards in normal use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Santia	n 6: Assidental relaces massures	
6.1	on 6: Accidental release measures Personal precautions, protective equipment, and emergency procedures:	Use protective equipment appropriate for surrounding materials.
6.1a	General release measures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8).
6.1b	Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned.
6.1c	Advice for emergency responders; personal precautions, protective equipment and emergency	Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of

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6.2	Environmental precautions:	Do not allow to enter drains, sewers, or watercourses.
6.3	Methods and materials for containment and	Contain any spills with dikes or absorbent materials to prevent
	clean up:	migration and entry into sewers or water sources. Place in a suitable
		container for disposal in accordance with local waste regulations (see
		Section 13). Wash spill area thoroughly with plenty of soap and water.
		Avoid contact with skin or inhalation of spillage, dust, or vapor.
6 /	Reference to other sections:	Refer to Sections 8 and 13 for additional information.
6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.
Sectio	n 7: Handling and storage	
7.1	Precautions for safe handling:	Do not handle until all safety precautions have been read and
	r roodatione for sale handling.	understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of
		vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate
		personal protection equipment (PPE). Thoroughly wash hands and
		contaminated areas with water and soap before leaving the work site.
		Keep away from sources of ignition.
7.1a	Prevent handling of incompatible substances or	Avoid contact with strong acids and strong oxidizers.
7.10	mixtures:	
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use.
		Remove contaminated clothing and protective equipment before
		entering eating areas. Good personal hygiene is necessary. Follow
		good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any	Refer to product label. Store in cool place. Keep container tightly
	incompatibilities:	closed in a dry and well-ventilated place. Containers which are opened
	incompationneo.	must be carefully resealed and kept upright to prevent leakage. Avoid
		spills and release into the environment; keep away from watercourses
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
	n 8: Exposure controls/personal protection	
8.1	Control parameters:	
8.1a	Occupational exposure limits, such as chemical	Not available.
	identity, standard, TWA-8 hours (time weighted	
	average), STEL-15 minutes (short term exposure	
	limit), etc.: WEL = Workplace Exposure Limit. Sk =	
	can be absorbed through skin.	
8.1b	Appropriate engineering controls:	
8.1c	Individual protection measures, such as personal	Wear gloves, protective goggles, and lab coat.
	protective equipment:	
8.1d	Safety symbols:	
8.2	Exposure controls:	
6.2 8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the
5.20		workstation location.
8.2c	Ventilation controls:	Provide adequate ventilation.
8.2d	Reference to other sections:	Refer to Section 5 for additional information.
8.2e	Eye/face protection:	Wear approved chemical safety goggles where eye exposure is
	,	reasonably probable or face shield if risk of splashing.
8.2f	Skin protection:	Wear apron or protective clothing in case of contact.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2h	Respiratory equipment:	Where risk assessment shows air-purifying respirators are appropriate
0.211		use a full-face respirator with multi-purpose combination (US) or type
		ABEK (EN 14387) respirator cartridges as a backup to engineering
		controls. If the respirator is the sole means of protection, use a full-fac
		supplied air respirator. Use respirators and components tested and
		approved under appropriate government standards such as NIOSH
		(US) or CEN (EU).
8.2i	Other protection:	Wear appropriate clothing to avoid skin contact.
<u>8.2i</u> 8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift
0. 2 j		and before eating, smoking, and using the toilet. Promptly remove any
		clothing that becomes contaminated. Use appropriate skin cream to
		prevent drying of skin. When using do not eat, drink, or smoke. Wash
0.01	Thermal herorde:	promptly with soap and water if skin becomes contaminated
8.2k	Thermal hazards:	None known under normal conditions of use.
8.21	Environmental exposure controls:	Not determined.

Section 9: Physical and chemical properties				
9.1	Information on basic physical and chemical properties:	•		
9.1a	Appearance (physical state, color, etc.):	Powder, dust.		
9.1b	Odor:	No characteristic odor.		
9.1c	Odor threshold:	Not determined.		
9.1d	pH:	Not applicable.		
9.1e	Melting point/freezing point (°C):	Not determined.		
9.1f	Initial boiling point and boiling range:	Not determined.		
9.1g	Flash point (°C):	Not applicable.		
9.1h	Evaporation rate:	Not applicable		
9.1i	Flammability (solid, gas):	Not determined.		
9.1j	Upper/lower flammability or explosive limits:	Not determined.		
9.1k	Vapor pressure:	Not applicable.		
9.1I	Vapor density (Air =1):	Not applicable.		
9.1m	Relative density:	Not determined.		
9.1n	Solubility(ies):	Insoluble in water; soluble in organic solvents.		
9.10	Partition coefficient (N-octanol/water):	Not determined.		
9.10 9.1p	Auto-ignition temperature (°C):	Not determined.		
9.1p 9.1q	Decomposition temperature (°C):	Not determined.		
9.1 <u>q</u> 9.1r	Viscosity:	Not determined.		
9.1r 9.1s	Explosive properties:	Not determined.		
9.1t 9.2	Oxidizing properties: Other information:	Not determined.		
9.2a	Other physical or chemical parameters:	None.		
Castle	n 10. Stability and reactivity			
10.1	n 10: Stability and reactivity	Ne data available		
	Reactivity:	No data available.		
10.2	Chemical stability:	Stable under normal temperature conditions.		
10.3	Possibility of hazardous reactions:	Hazardous polymerization: no data available.		
	Conditions to avoid:	To avoid product degradation, avoid exposure to high temperatures of		
10.4				
		direct sunlight or light.		
10.5 10.6	Incompatible materials: Hazardous decomposition products:			
10.4 <u>10.5</u> <u>10.6</u> <u>Sectic</u> 11.1		direct sunlight or light. No data available.		
10.5 10.6 Sectic	Hazardous decomposition products:	direct sunlight or light. No data available.		
10.5 10.6 Sectic 11.1	Hazardous decomposition products: on 11: Toxicological information Information on toxicological effects:	direct sunlight or light. No data available. None under normal conditions.		
10.5 10.6 Sectic 11.1 11.1a	Hazardous decomposition products: on 11: Toxicological information Information on toxicological effects: Name:	direct sunlight or light. No data available. None under normal conditions.		
10.5 10.6 Sectic 11.1 11.1a 11.1b 11.1c	Hazardous decomposition products: Information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation:	direct sunlight or light. No data available. None under normal conditions. SR-LEHD-FMK Not determined. Not determined.		
10.5 10.6 Sectic 11.1 11.1a 11.1b 11.1c 11.1d	Hazardous decomposition products: Information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation:	direct sunlight or light. No data available. None under normal conditions. SR-LEHD-FMK Not determined.		
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10.5 10.6 Sectic 11.1 11.1a 11.1b 11.1c 11.1d 11.1e 11.1f	Hazardous decomposition products: Information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization: Germ cell mutagenicity:	direct sunlight or light. No data available. None under normal conditions. SR-LEHD-FMK Not determined. Not determined. Not determined. Not determined.		
10.5 10.6 Sectic 11.1 11.1a 11.1b 11.1c 11.1d 11.1e 11.1f 11.1g	Hazardous decomposition products: Information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization: Germ cell mutagenicity: Carcinogenicity: Carcinogenicity:	direct sunlight or light. No data available. None under normal conditions. SR-LEHD-FMK Not determined. Not determined. Not determined. Not determined. Not determined. Not determined. Not determined. Not determined. Not determined.		
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SR-LEHD-FMK SDS; Doc# F17-678-4-E; Effective: 09/27/2017; Supersedes: F17-678-5-D; Page 5 of 6

11.1ab	Other information:	None.
	n 12: Ecological information	
12.1	Toxicity:	•
12.1a	Name:	SR-LEHD-FMK.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	Not determined.
12.2	Persistence and degradability:	There are no data on the degradability of this product.
12.3	Bioaccumulative potential:	No data available on bioaccumulation.
12.4	Mobility in soil:	No data available.
12.5	Results of PBT and vPvB assessment:	Not determined.
12.6	Other adverse effects:	No data available.
Section	n 13: Disposal considerations	
13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety
10.1	Waste ireament methods.	precautions applying to handling of the product.
13.1a	Description of waste residues and information on	Dispose of waste and residues in accordance with local authority
	their safe handling and methods of disposal,	requirements. For the safety of persons conducting disposal, recycling
	including the disposal of any contaminated	or reclamation activities, please refer to the information in Section 8
	packaging:	(exposure controls and personal protection) of the SDS.
	n 14: Transport information	
14.1	UN number:	Not applicable.
14.2	UN proper shipping name:	Not applicable.
14.3	Transport hazard class(es):	Not applicable.
14.4	Packing group:	Not applicable.
14.5	Environmental hazards:	· · · · · · · · · · · · · · · · · · ·
14.5a	Is it environmentally dangerous according to UN	No.
	Model Regulations (IMDG Code, ADR, RID, and	
4456	ADN)?:	Na
14.5b	Is it a marine pollutant according to the IMDG code?:	No.
116	Special precautions for user:	None known.
14.6 14.7	Transport in bulk according to Annex II of	Not applicable.
14.7	MARPOL and the IBC code:	
14.7a	Other information:	The product is not considered a dangerous good for transport.
14.7b	Classification for other modes of transport:	Contact supplier.
11110		
Section	n 15: Regulatory information	
15.1	Safety, health and environmental	
-	regulations/legislation specific for the substance	
	regulations/legislation specific for the substance	
	or mixture:	
15.1a		None known.
15.1a	or mixture: Regional safety, health and environmental regulations specific for the product in question:	None known.
15.1b	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313):	None known.
15.1b 15.1c	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know:	Not listed. Not listed.
15.1b 15.1c 15.1d	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know:	Not listed. Not listed. Not listed.
15.1b 15.1c 15.1d 15.1e	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know:	Not listed. Not listed. Not listed. Not listed.
15.1b 15.1c 15.1d 15.1e 15.1f	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components:	Not listed. Not listed. Not listed.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}:	Not listed. Not listed. Not listed. Not listed. Not listed.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization:	Not listed. Not listed. Not listed. Not listed. Not listed. Not listed.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1h	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern:	Not listed. Not listed. Not listed. Not listed. . Not listed. Not listed. Not listed. Not listed.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization:	Not listed. Not listed. Not listed. Not listed. . Not listed. . Not listed. Classification and labeling of substances and preparations dangerous
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1j	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice:	Not listed. Not listed. Not listed. Not listed. . Not listed. . Not listed. Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1i 15.1j 15.1k	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice: Guidance notes:	Not listed. Not listed. Not listed. Not listed. Not listed. . Not listed. Out listed. . Not listed. Out listed. . Not listed. Out listed. Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1j	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice:	Not listed. Not listed. Not listed. Not listed. Not listed. . Not listed. Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40. (EC) No. 1272/2008 on the classification, labelling and packaging of
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15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1i 15.1j 15.1k	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice: Guidance notes:	Not listed. Not listed. Not listed. Not listed. Not listed. Not listed. . Not listed. Ot listed. . Not listed. Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40. (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1i 15.1j 15.1k	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice: Guidance notes:	Not listed. Not listed. Not listed. Not listed. Not listed. Not listed. .
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15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1i 15.1k 15.1l	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice: Guidance notes: EU legislation references: Chemical safety assessment:	Not listed. Not listed. Not listed. Not listed. Not listed. Not listed. . Not listed. Ot listed. . . Not listed. Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40. (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Not required.
15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1i 15.1k 15.1l	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice: Guidance notes: EU legislation references:	Not listed. Not listed. Not listed. Not listed. Not listed. Not listed. . Not listed. Ot listed. . Not listed. Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40. (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
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15.1b 15.1c 15.1d 15.1e 15.1f 15.1g 15.1h 15.1i 15.1i 15.1k 15.1l 15.1l	or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know: USA Pennsylvania Right to Know: USA New Jersey Right to Know: USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}: Annex XIV substances subject to authorization: Substances of very high concern: Approved code of practice: Guidance notes: EU legislation references: EU legislation references: Other regulatory information:	Not listed. Not listed. Not listed. Not listed. Not listed. Not listed. . Not listed. Ot listed. .

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16.1c	Superse	edes SDS number and revision:	F17-678-5-D
16.1d	Change	es made to the previous version of the SDS:	Reviewed and updated document control numbers; minor corrections.
	Change	es made to the previous version of the SDS: end to abbreviations and acronyms used in	Reviewed and updated document control numbers; minor corrections. ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE Acute Toxicity Estimate. BCF Bio Concentration Factor. CAS Chemical Abstracts Service. CLP Classification, Labelling and Packaging. CMR Carcinogen, Mutagen or Reproductive toxicant. COD Chemical Oxygen Demand. EC European Commission. EC50 Half maximal effective concentration. EH40 Resource containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations. EINECS European Inventory of Existing Commercial chemical Substances. ELINCS European List of Notified Chemical Substances. EU European Union. GHS Globally Harmonized System of Classification and Labelling of Chemicals. H Statement GHS Hazard statement. IATA International Air Transport Association. IBC Intermediate Bulk Container. IC50 Half maximal inhibitory concentration. IMDG International Maritime Dangerous Goods. LC50 Median lethal concentration. ID50 Median lethal concentration. LD50 Median lethal concentration. DD50 Median lethal concentration. DD50 Median lethal dose. LogPow logarithm of the octanol/water partition coefficient. MARPOL 73/78 International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. OEL Occupational Safety and Health Administration (USA). PBT Persistent, Bioaccumulative, and Toxic. PEL Permissible Exposure Limit. RID The Regulations concerning the International Carriage of Dangerous Goods by Rail. SADT Self-Accelerating Decomposition Temperature. SARA Superfund Amendments and Reauthorization Act. SCBA Self-Contained Breathing Apparatus. SDS Safety Data Sheet. STOT Specific Target Organ Toxicity.
			RID The Regulations concerning the International Carriage of Dangerous Goods by Rail. SADT Self-Accelerating Decomposition Temperature. SARA Superfund Amendments and Reauthorization Act. SCBA Self-Contained Breathing Apparatus. SDS Safety Data Sheet.
			STOT-SE Specific Target Organ Toxicity - Single Exposure. UN United Nations. USA United States of America. vPvB very Persistent very bioaccumulative.
16.1f		t of hazard statements and/or precautionary ents not written out in full elsewhere:	All statements were written out in full.
DISCLA		This information relates only to the specif in combination with any other materials o knowledge and belief, accurate and reliab	fic material designated and may not be valid for such material used or in any process. Such information is, to the best of the company's ole as of the date indicated. However, no warranty guarantee or liability, or completeness. It is the user's responsibility to satisfy mation for his own particular use.
		El	ND OF SDS

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TECHNOLOGIES

SAFETY DATA SHEET (SDS) according to Regulation (EC) No. 830/2015 amending 1907/2006

Sectio	n 1: Identification of the substance/mixture and of th	e company/undertaking	
1.1	Product identifier:	10X Apoptosis Wash Buffer	
1.1a	Other means of identification:		
1.1b	Alternative product name(s)/ synonyms:	10X AWB, AWB, Apoptosis Wash Buffer	
1.1c	Product number/Catalog #(s):	535, 634, 635	
1.1d	Internal identification:	10X AWB, AWB, Apoptosis Wash Buffer	
1.2	Relevant identified uses of the substance or	For research use only. Not for use in diagnostic procedures.	
	mixture and uses advised against:		
1.2a	Brief description of what the substance or mixture is	A buffered diluent for use in research laboratory techniques.	
	intended to do:		
1.3	Details of the supplier of the SDS:	•	
1.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)	
1.3b	Address:	9401 James Avenue South, Suite 155	
1.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA	
1.3d	Phone number:	1-800-829-3194 and 952-888-8788	
1.3e	Fax number:	952-888-8988	
1.3f	Website:	www.immunochemistry.com	
1.3g	Email:	help@immunochemistry.com	
1.3h	Contact person at ICT:	Quality Documentation Department	
1.4	Emergency telephone number:	ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide;	
		ICT hours are 9 am-5 pm central time USA, Monday through Friday	
		(excluding holidays). Chemtrec 24-hour access within USA and	
		Canada: 1-800-424-9300 or +1 703-527-3887. Collect calls accepted.	
Sectio	n 2: Hazards identification		
2.1	Classification of the substance or mixture:		
2.1a	Product is a:	Mixture.	
2.1b	Classification according to (EC) No. 1272/2008	Does not meet the criteria for classification.	
	{CLP}:		
2.1c	The most important adverse physiochemical, human	Prolonged skin contact may cause redness and irritation. Refer to	
	health, and environmental effects:	Sections 4, 9-12.	
2.2	Label elements:	None.	
2.2a	GHS label elements, including precautionary		
	statements:	• · · · • · · · · · · · · · · · · · · ·	
2.2b	Contains:	Contains ≤0.1% sodium azide.	
2.2c	Labeling in accordance with (EC) No. 1272/2008:		
2.2d	Hazard Pictograms (Hazard Symbols):	None.	
2.2e	Signal word:	None.	
2.2f	Hazard statements:	None.	
2.2g	Precautionary statements:	None.	
2.2h	Supplementary precaution statements:	None.	
2.3	Other hazards:	No additional information available.	
2.3a	Does the chemical meet the criteria for PBT or vPvB? Other hazards which do not result in classification:	Not applicable. Contains sodium azide (NaN ₃ , CAS #26628-22-8; EC #247-852-1) at	
2.3b	Other nazards which do not result in classification:		
		≤0.1%, sodium chloride (NaCl, salt), and phosphates which are below the threshold for hearend elegisition, but may agues reduces and	
		the threshold for hazard classification, but may cause redness and irritation after prolonged exposure.	
Sectio	n 3: Composition/information on ingredients		
3.1	Substance:	Item is a mixture therefore Section 3.1 is not applicable; see Section	
-		3.2.	
3.2	Mixture:	Item is a mixture.	
	The chemical identity and concentration or		
	concentration ranges of all ingredients which are		
	hazardous and are present above their cut-off levels:		
	3.2a Chemical identity:	No ingredients identified for reporting in this section.	
	n 4: First aid measures		
4.1	Description of first aid measures:	If concerned, get medical attention/advice and provide physician with	
		SDS information. Wash contaminated clothing before re-use. Never	
		give anything to an unconscious person.	

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	<u>10X Apoptosis Wash Buffer SDS; Doc# F17-535-2-0</u>	C; Effective: 5/19/17; Supersedes: F17-535-2-B; Page 2 of 6
4.1a	Inhalation:	Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Rinse nose and
		mouth with water. Get medical attention if any discomfort continues.
4.1b	Skin contact:	Wash skin thoroughly with soap and water for several minutes;
4.10	Skin contact.	continue to rinse for at least 15 minutes. Remove any contaminated
		clothing and shoes and wash thoroughly before reuse. Get medical
		attention if any discomfort continues.
4.1c	Eye contact:	Promptly wash eyes with plenty of water while lifting the eyelids. Make
		sure to remove any contact lenses from the eyes before rinsing.
		Continue to rinse for at least 15 minutes. Get medical attention if any
		discomfort continues.
4.1d	Ingestion:	NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK
		FLUIDS! Rinse mouth thoroughly. Do not induce vomiting without
		advice from poison control center or medical professional. Get medical
		attention if any discomfort continues.
4.2	Most important symptoms and effects, both acute	Contains sodium azide, sodium chloride, and phosphates which are
7.4	and delayed:	below the threshold for hazard classification, but may cause redness
	allu uelayeu.	
4.0		and irritation after prolonged exposure.
4.2a	Inhalation:	May cause coughing or mild irritation.
4.2b	Skin contact:	Prolonged skin contact may cause redness and mild irritation.
4.2c	Eye contact:	May cause temporary eye irritation.
4.2d	Ingestion:	May cause discomfort if swallowed.
4.3	Indication of any immediate medical attention and	No specific first aid measures noted, but first aid may still be required
	special treatment needed:	in case of accidental exposure, inhalation, or ingestion of this product.
		If in doubt, get medical attention promptly!
4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal
1.00		protective equipment.
Soctio	on 5: Firefighting measures	
5.1	Extinguishing media:	This product is not flommable. Use firs outinguishing modie
5.1	Extinguishing media:	This product is not flammable. Use fire-extinguishing media
		appropriate for the surrounding materials.
5.1a	Suitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide.
5.1b	Unsuitable extinguishing media:	None known.
5.2	Special hazards arising from the substance or	This product is not flammable. Product is not explosive. No dangerous
	mixture:	reactions known under normal conditions of use.
5.2a	Hazardous combustion products:	None under normal conditions.
5.2b	Unusual fire & explosion hazards:	No unusual fire or explosion hazards noted.
5.2c	Protective measures in fire:	Use protective equipment appropriate for surrounding materials.
5.3	Advice for firefighters:	Keep away from heat, hot surfaces, sparks, open flames and other
5.5	Advice for menginers.	ignition sources. No smoking.
5.3a	Changed firstighting proceedures:	No specific firefighting procedure given.
	Special firefighting procedures: Special protective equipment and precautions for	
5.3b		Wear full protective clothing, including self-contained breathing
	firefighters:	apparatus, if necessary. The product presents no special fire hazards
		in normal use. Keep away from heat, hot surfaces, sparks, open
		flames and other ignition sources. No smoking.
Sectio	on 6: Accidental release measures	
6.1	Personal precautions, protective equipment, and	Line waste stiller and in an and an analysis to favor summer a discrete state
		Use protective equipment appropriate for surrounding materials.
6.1a	emergency procedures:	Use protective equipment appropriate for surrounding materials.
U. 10	emergency procedures: General release measures:	
5. ia	emergency procedures: General release measures:	No specific emergency measures are required other than good
0.1a		No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable
J. 1a		No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult
	General release measures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8).
6.1b	General release measures: Advice for non-emergency personnel; personal	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective
	General release measures: Advice for non-emergency personnel; personal	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes,
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes,
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition.
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if
6.1b	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned.
	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned.
6.1b	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of
6.1b 6.1c	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8).
6.1b 6.1c 6.2	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Do not allow to enter drains, sewers, or watercourses.
6.1b 6.1c	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Do not allow to enter drains, sewers, or watercourses.
6.1b 6.1c 6.2	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions: Methods and materials for containment and	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Do not allow to enter drains, sewers, or watercourses. Contain any spills with dikes or absorbent materials to prevent
6.1b 6.1c 6.2	General release measures: Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Advice for emergency responders; personal precautions, protective equipment and emergency procedures: Environmental precautions:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8). No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Do not allow to enter drains, sewers, or watercourses.

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	10X Apoptosis Wash Butter SDS; Doc# F17-535-2	-C; Effective: 5/19/17; Supersedes: F17-535-2-B; Page 3 of 6 Section 13). Wash spill area thoroughly with plenty of soap and water.
		Avoid contact with skin or inhalation of spillage, dust, or vapour.
6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.
Sectio	n 7: Handling and storage	
7.1	Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate personal protection equipment (PPE). Thoroughly wash hands and contaminated areas with water and soap before leaving the work site. Keep away from sources of ignition.
7.1a	Prevent handling of incompatible substances or mixtures:	Avoid contact with halogenated hydrocarbons, strong acids, strong oxidizers, and metals.
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Good personal hygiene is necessary. Follow good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any incompatibilities:	Store in cool place. Keep container tightly closed in a dry and well- ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid spills and release into the environment; keep away from watercourses.
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
Section	n 8: Exposure controls/personal protection	
8.1	Control parameters:	
8.1a	Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure limit), etc.: WEL = Workplace Exposure Limit. Sk = can be absorbed through skin.	Not available.
8.1b	Appropriate engineering controls:	
8.1c	Individual protection measures, such as personal protective equipment:	Wear gloves. Wear protective goggles.
8.1d	Safety symbols:	
8.2	Exposure controls:	
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.
8.2c 8.2d	Ventilation controls: Reference to other sections:	Provide adequate ventilation. Refer to Section 5 for additional information.
8.2u 8.2e	Eye/face protection:	Wear approved chemical safety goggles where eye exposure is
8.2f	Skin protection:	reasonably probable or face shield if risk of splashing. Wear apron or protective clothing in case of contact.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2h	Respiratory equipment:	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
8.2i	Other protection:	Wear appropriate clothing to avoid skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated
8.2k 8.2l	Thermal hazards:	None known under normal conditions of use. Not determined.
0.21	Environmental exposure controls:	
Sectio	n 9: Physical and chemical properties	
9.1	Information on basic physical and chemical properties:	
9.1a	Appearance (physical state, color, etc.):	Liquid; colorless.
9.1b	Odor:	No characteristic odor.
9.1c	Odor threshold:	Not determined.

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1.1ab	Other information: n 12: Ecological information Toxicity:	
11.1z 11.1ab		
	Other Information:	
	Classification by OSHA 13:	Not classified. None.
-	on Cancer (IARC):	
1.1x 11.1y	Classification by International Agency for Research	Not classified.
<u>11.1w</u> 11.1x	Mixture vs. substance information: Classification by National Toxicity Program (NTP):	See Section 3 for any substances in the mixture. Not classified.
11.1v	Mixtures:	Item is a mixture.
11.1u	Absence of specific data:	Not applicable.
11.1t	Interactive effects:	Not determined.
11.1s	Numerical measures of toxicity (such as acute toxicity estimates):	Not determined.
11 1-	effects from short and long term exposure:	Net determined
11.1r	Delayed and immediate effects as well as chronic	Not determined.
11.14	toxicological characteristics:	
1.1p 1.1q	Eye contact: Symptoms related to the physical, chemical and	Spray and vapor in the eyes may cause irritation and smarting. No specific symptoms noted.
1.10	Skin contact:	Liquid may irritate skin and cause redness.
		system and cause coughing.
1.1n	Inhalation:	In high concentrations, vapors may irritate throat and respiratory
11.1m	Ingestion:	May cause discomfort if swallowed.
11.11	Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	May enter by skin and/or eye contact; inhalation of vapors/mist/dust.
11.1k	Aspiration hazard:	Not determined.
11.1j	STOT-repeated exposure:	Not determined.
11.1i	STOT-single exposure:	Not determined.
<u>11.1g</u> 11.1h	Carcinogenicity: Reproductive toxicity:	Not determined. Not determined.
11.1f	Germ cell mutagenicity:	Not determined.
11.1e	Respiratory or skin sensitization:	Not determined.
1.1d	Serious eye damage/irritation:	Not determined.
11.1c	Skin corrosion/irritation:	Not determined.
11.1b	Acute toxicity:	Not determined.
11.1 11.1a	Name:	10X Apoptosis Wash Buffer
Sectior	n 11: Toxicological information Information on toxicological effects:	
0.6	Hazardous decomposition products:	None under normal conditions.
		oxidizers, and metals.
10.5	Incompatible materials:	Avoid contact with halogenated hydrocarbons, strong acids, strong
10.4	Conditions to avoid:	To avoid product degradation, avoid exposure to high temperatures o direct sunlight or light.
10.3 10.4	Possibility of hazardous reactions: Conditions to avoid:	Hazardous polymerization: will not polymerize.
10.2	Chemical stability:	Stable under normal temperature conditions.
10.1	Reactivity:	No data available.
	n 10: Stability and reactivity	
5.2U		
9.2 9.2a	Other physical or chemical parameters:	None.
9.1t 9.2	Oxidizing properties: Other information:	Not determined.
9.1s	Explosive properties:	Not determined.
9.1r	Viscosity:	Not determined.
9.1q	Decomposition temperature (°C):	Not determined.
9.1p	Auto-ignition temperature (°C):	Not determined.
9.1n 9.1o	Partition coefficient (N-octanol/water):	Not determined.
9.1m 9.1n	Relative density: Solubility(ies):	Not determined. Soluble in water.
9.11	Vapor density (Air =1):	Not determined.
9.1k	Vapor pressure:	Not determined.
9.1j	Upper/lower flammability or explosive limits:	Not applicable.
9.1i	Flammability (solid, gas):	Not applicable.
9.1 <u>9</u> 9.1h	Evaporation rate:	Not determined.
9.1f 9.1g	Initial boiling point and boiling range: Flash point (°C):	<100°C @ 760 mm Hg. Not applicable.
ר א ר	Melting point/freezing point (°C):	Not determined.
9.1e	Malting point/treating point (°(`);	Not determined

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no	10X Apoptosis Wash Buffor

15.2 15.2a	Other regulatory information:	None.
	Chemical safety assessment:	Not required.
		and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
		European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC
		(EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a
15.11	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation
15.1k	Guidance notes:	for supply. Safety data sheets for substances and preparations. Workplace exposure limits EH40.
<u>15.1i</u> 15.1j	Substances of very high concern: Approved code of practice:	Not listed. Classification and labeling of substances and preparations dangerous
15.1h	Annex XIV substances subject to authorization:	Not listed.
15.1g	EU Regulation 1907/2006 {REACH}:	· · · · · · · · · · · · · · · · · · ·
15.1e 15.1f	USA New Jersey Right to Know: USA California Prop. 65 Components:	Sodium azide (CAS # 26628-22-8) is listed. Not listed.
15.1d	USA Pennsylvania Right to Know:	Sodium azide (CAS # 26628-22-8) is listed.
15.1c	USA Massachusetts Right to Know:	Sodium azide (CAS # 26628-22-8) is listed.
15.1b	regulations specific for the product in question: USA SARA Components (such as 302/311/313):	Sodium azide (CAS # 26628-22-8) is listed under 302, 304, 313.
15.1a	or mixture: Regional safety, health and environmental	· · ·
	n 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance	•
Section		
14.7a 14.7b	Classification for other modes of transport:	Contact supplier.
14.7a	MARPOL and the IBC code: Other information:	The product is not considered a dangerous good for transport.
14.6 14.7	Special precautions for user: Transport in bulk according to Annex II of	None known. Not applicable.
14.5b	Is it a marine pollutant according to the IMDG code?:	No.
	Model Regulations (IMDG Code, ADR, RID, and ADN)?:	
14.5a	Is it environmentally dangerous according to UN	classified as hazardous for the environment, and the effects are not expected to be significant. No.
		cause long term adverse effects in the aquatic environment. However, at the concentrations present, this product does not need to be
14.5	Environmental hazards:	The product contains a substance (sodium azide ≤0.1%) that may
14.3 14.4	Transport hazard class(es): Packing group:	Not applicable. Not applicable.
14.2	UN proper shipping name:	Not applicable.
14.1	UN number:	Not applicable.
Section	n 14: Transport information	
	including the disposal of any contaminated packaging:	or reclamation activities, please refer to the information in Section 8 (exposure controls and personal protection) of the SDS.
13.1a	Description of waste residues and information on their safe handling and methods of disposal,	Dispose of waste and residues in accordance with local authority requirements. For the safety of persons conducting disposal, recycling
13.1	Waste treatment methods:	When handling waste, conisderation should be made to the safety precautions applying to handling of the product.
Section	n 13: Disposal considerations	
		classified as hazardous for the environment, and the effects are not expected to be significant.
12.0		cause long term adverse effects in the aquatic environment. However, at the concentrations present, this product does not need to be
12.5 12.6	Results of PBT and vPvB assessment: Other adverse effects:	Not determined. The product contains a substance (sodium azide ≤0.1%) that may
12.4	Mobility in soil:	The product is soluble in water.
12.2 12.3	Persistence and degradability: Bioaccumulative potential:	There are no data on the degradability of this product. No data available on bioaccumulation.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	No data available.
12.1a	Name:	10X Apoptosis Wash Buffer.

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16.1 046-	ther information	
	r information:	40 May 2017
	of revision:	19-May-2017
		F17-535-2-B
6.1d Chan	ges made to the previous version of the SDS:	Reviewed and updated document control numbers.
16.1c Super 16.1d Chan	number and revision: rsedes SDS number and revision: ges made to the previous version of the SDS: egend to abbreviations and acronyms used in DS:	 ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE Acute Toxicity Estimate. BCF Bio Concentration Factor. CAS Chemical Abstracts Service. CLP Classification, Labelling and Packaging. CMR Carcinogen, Mutagen or Reproductive toxicant. COD Chemical Oxygen Demand. EC European Commission. EC50 Half maximal effective concentration. EH40 Resource containing the list of workplace exposure limits for us with the Control of Substances Hazardous to Health Regulations. EINECS European Inventory of Existing Commercial chemical Substances. EU European Union. GHS Globally Harmonized System of Classification and Labelling of Chemicals. H Statement GHS Hazard statement. IATA International Air Transport Association. IBC Intermediate Bulk Container. IC50 Half maximal inhibitory concentration.
		LC50 Median lethal concentration. LD50 Median lethal dose. LogPow logarithm of the octanol/water partition coefficient. MARPOL 73/78 International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. OEL Occupational Exposure Limit. OSHA Occupational Safety and Health Administration (USA). PBT Persistent, Bioaccumulative, and Toxic. PEL Permissible Exposure Limit. RID The Regulations concerning the International Carriage of Dangerous Goods by Rail. SADT Self-Accelerating Decomposition Temperature. SARA Superfund Amendments and Reauthorization Act. SCBA Self-Contained Breathing Apparatus. SDS Safety Data Sheet. STOT Specific Target Organ Toxicity. STOT-RE Specific Target Organ Toxicity - Repeated Exposure.
		STOT-SE Specific Target Organ Toxicity - Single Exposure. UN United Nations. USA United States of America.
		vPvB very Persistent very bioaccumulative.
	ext of hazard statements and/or precautionary nents not written out in full elsewhere:	All statements were written out in full.
DISCLAIMER:	This information relates only to the speci in combination with any other materials of knowledge and belief, accurate and reliab	fic material designated and may not be valid for such material user or in any process. Such information is, to the best of the company's ole as of the date indicated. However, no warranty guarantee or eliability, or completeness. It is the user's responsibility to satisfy nation for his own particular use.

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ImpunoChemistry TECHNOLOGIESLLC

SAFETY DATA SHEET (SDS) according to Regulation (EC) No. 830/2015 amending 1907/2006

Sectio	n 1: Identification of the substance/mixtu	re and of the c	ompany/undertaking
1.1	Product identifier:		Fixative
1.1a	Other means of identification:		
1.1b	Alternative product name(s)/ sy	nonyms:	Fixative, Fix
1.1c	Product number/Catalog #(s):	- , -	536, 636
1.1d	Internal identification:		Fixative, Fix
1.2	1.2 Relevant identified uses of the substance or mixture and uses advised against:		For research use only. Not for use in diagnostic procedures.
1.2a			Laboratory reagent to preserve cells.
1.3	Details of the supplier of the SDS:		
1.3a	Name: Address:		ImmunoChemistry Technologies, LLC (ICT)
1.3b			9401 James Avenue South, Suite 155
1.3c	City, State, Zip, Country		Bloomington, MN 55431-2500 USA
1.3d	Phone number:		1-800-829-3194 and 952-888-8788
1.3e	Fax number:		952-888-8988
1.3f	Website:		www.immunochemistry.com
1.3g	Email:		help@immunochemistry.com
1.3h 1.4	Contact person at ICT: Emergency telephone number:		Quality Documentation Department ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide; ICT hours are 9 am-5 pm central time USA, Monday through Friday (excluding holidays). Chemtrec 24-hour access within USA and Canada: 1-800-424- 9300 or +1 703-527-3887. Collect calls accepted.
Sectio	n 2: Hazards identification		
2.1	Classification of the substance or mixture:		
2.1a	Product is a:	Mixture.	
2.1b 2.1c	Classification according to (EC) No. 1272/2008 {CLP}: The most important adverse physiochemical, human health, and	H302 Acute H312 Acute H315 Skin Ir H319 Eye Iri H317 Skin s H341 Germ H350 Carcin H371 Specif H335 Specif	Liquids, (Category 4) (USA Only). toxicity, Oral (Category 4). toxicity, Dermal (Category 4). ritation, (Category 2). ritation, (Category 2). ensitisation (Category 1). cell mutagenicity (Category 2). iogenicity (Category 1B). ic Target Organ Toxicity - Single Exposure (Category 2). ic Target Organ Toxicity - Single Exposure (Category 3) - Respiratory Tract. ct with liquid may cause immediate harm to skin, mouth, and eyes. Refer to 9-12.
2.2	environmental effects: Label elements:		
2.2a	GHS label elements, including		
	precautionary statements:		
2.2b	Contains:	Formaldehy	de <10%; and Methanol <5%.
2.2c	Labeling in accordance with (EC) No. 1272/2008:	•	
2.2d	Hazard Pictograms (Hazard Symbols):	GHS07 Excl	amation mark. GHS08 Health hazard.
2.2e	Signal word:	Danger.	
2.2f	Hazard statements: Hazard statements: H302 Harm H312 Harm H319 Cause H315 Cause H317 May of H350 May of H341 Susper H371 May of		ustible liquids. ul if swallowed. ul if in contact with skin. s serious eye irritation. s skin irritation. ause an allergic skin reaction. ause cancer. icted of causing genetic defects. ause damage to organs. ause respiratory irritation.
2.2g	Precautionary statements:	P201 Obtain P280 Wear P301 + P312	a special instructions before use. protective gloves/ protective clothing/ eye protection/ face protection. 2 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if vell. Rinse mouth.

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	Fixative SD				es: F17-536-2-C; Page 2 of 8 erned: Get medical advice/ attention.	
					ash occurs: Get medical advice/ attention.	
2.2h	Supplementary precaution st	tatements: P270	Do not	eat, drink or smoke	when using this product.	
				reathing mist/vapors		
	P272 Con P212 Coll		Contam	ninated work clothing	g should not be allowed out of the workplace.	
	P321 Spec P322 Spec P330 Rinse P362 Take P363 Wash				tor if you feel unwell.	
				c treatment (see on t		
					this label).	
				if contaminated cloth	ning	
				contaminated clothing		
				e of contents/contair	hers in accordance with local regulations.	
					plenty of soap and water.	
					ictim to fresh air and keep at rest in a position	
				or breathing.		
					se cautiously with water for several minutes. Remove	
		conta	ict lense		sy to do. Continue rinsing.	
2.3	Other hazards:		50	No additional inform	mation available.	
2.3a	Does the chemical meet the		/B?	Not applicable.		
2.3b	Other hazards which do not	result in classification:		Not known.		
Sectio	n 3: Composition/informatio	n on ingrediente				
3.1	Substance:			Item is a mixture th	nerefore Section 3.1 is not applicable; see Section 3.2.	
3.2	Mixture:			Item is a mixture.		
	The chemical identity and co	ncentration or concent	tration			
	ranges of all ingredients which					
	present above their cut-off le					
	3.2a Chemical identity:			Formaldehyde		
	3.2b Common name, synony	/ms, etc.:		CH ₂ O; Index# 605-		
	3.2c CAS number and			<u>3.2e %</u>	3.2f Classification according to (EC) No. 1272/2008	
	other unique identifiers:	<u>3.2d EC numbe</u>	<u>r:</u>	Concentration:	<u>{CLP}:</u>	
	50-00-0	200-001-8		<10%	H301 Toxic if swallowed. H311 Toxic in contact with	
					skin. H331 Toxic if inhaled. Acute Tox. 3.	
					H314 Causes severe skin burns and eye damage.	
					Skin Corr. 1B.	
					H318 Causes serious eye damage. Eye Dam. 1.	
					H317 May cause an allergic skin reaction. Skin Sens.	
					1. H341 Suspected of causing genetic defects. Muta. 2.	
					H341 Suspected of causing genetic defects. Muta. 2. H350 May cause cancer. Carc. 1B.	
					H335 May cause respiratory irritation. STOT SE 3.	
3.2g	Other ingredient:					
- 5	3.2h Chemical identity:			Methanol		
	3.2i Common name, synony	ms, etc.:		CH ₄ O; Index # 603	3-001-00-X	
	3.2j CAS number and			3.21 %	3.2m Classification according to (EC) No. 1272/2008	
	other unique identifiers:	3.2k EC numbe	r:	Concentration:	{CLP}:	
	67-56-1	200-659-6		<5%	H225 Highly flammable liquid and vapor. Flam. Liq. 2.	
					H301 Toxic if swallowed. H311 Toxic in contact with	
					skin. H331 Toxic if inhaled. Acute Tox. 3.	
					H370 Causes damage to organs. STOT SE 1.	
0						
	n 4: First aid measures			Conquiting	alaion and provide CDO information. If a second back	
4.1	Description of first aid mea	asures:			sician and provide SDS information. If exposed or	
				concerned, get medical attention/advice. Wash contaminated clothing		
				before re-use. Never give anything to an unconscious person. First aid responders should wear gloves/skin protection to avoid contact with		
				product.	พอลา ยายของจึงการ คายเอยเมตร เปลี่ยงเป็น เป็นไลย์เ พิเมร	
4.1a	Inhalation:				ir and keep at rest in a comfortable position for	
- 1 .1a					eathing, give artificial respiration. Rinse nose and mouth	
				with water. Get me		
4.1b	Skin contact:				clothing/shoes and immediately wash all exposed skin	
				with soap and wate	er for at least 15 minutes. Take victim immediately to	
				hospital. Get media		
4.1c	Eye contact:				ion immediately. Promptly wash eyes with plenty of	
				water while lifting t	he eyelids. Make sure to remove any contact lenses	
					bre rinsing. Continue to rinse for at least 15 minutes.	
4.1d	Ingestion:			Get medical attenti	ion immediately and if any discomfort continues. NEVER	
	-			MAKE AN UNCON	SCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse	
				mouth thoroughly.	Do not induce vomiting without advice from poison	
				control center or m	nedical professional.	
4.2		Most important symptoms and effects, both acute			ons 2 and 11 for most important known symptoms and	
	and delayed:			effects.		
4.2a	Inhalation:			May cause respira	tory irritation.	

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4.2b	Skin contact:	Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
4.2c	Eye contact:	Causes serious eye irritation.
4.2d 4.3	Ingestion: Indication of any immediate medical attention and special treatment needed:	Harmful if swallowed. Get medical attention immediately.
4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal protective equipment.
Sectio	n 5: Firefighting measures	
5.1	Extinguishing media:	Use fire-extinguishing media appropriate for the surrounding materials.
5.1a	Suitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
5.1b	Unsuitable extinguishing media:	None known.
5.2	Special hazards arising from the substance or mixture:	•
5.2a	Hazardous combustion products:	None under normal conditions.
5.2b	Unusual fire & explosion hazards:	No unusual fire or explosion hazards noted.
5.2c	Protective measures in fire:	Use protective equipment appropriate for surrounding materials. Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus and protective suit (see Section 8).
5.3	Advice for firefighters:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
5.3a	Special firefighting procedures:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
5.3b	Special protective equipment and precautions for firefighters:	Wear full protective clothing, including self-contained breathing apparatus, if necessary. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Sectio 6.1	n 6: Accidental release measures Personal precautions, protective equipment, and	Use protective equipment appropriate for surrounding materials and to avoid contamination.
6.1a	emergency procedures: General release measures:	No specific emergency measures are required other than good laboratory
0.14		hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel for large spills.
6.1b	Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	Wear suitable protective clothing/gloves/eye/face protection to prevent any contamination of skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel for large and eye or face protection.
6.1c	Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	for large spills or if concerned. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination; use an approved supplied-air respirator, in case of emergency (also refer to Section 8).
6.2	Environmental precautions:	Do not allow to enter drains, surface, and ground water, sewers, or watercourses.
6.3	Methods and materials for containment and clean up:	Contain any spills with dikes or absorbent materials to prevent migration and entry into sewers or water sources. Place in a suitable container for disposal in accordance with local waste regulations (see Section 13). Wash spill area thoroughly with plenty of soap and water. Avoid contact with skin or inhalation of spillage, dust, or vapor
6.4	Reference to other sections:	Refer to Sections 8 and 13 for additional information.
Sectio	n 7: Handling and storage	
7.1	Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate personal protection equipment (PPE). Thoroughly wash hands and contaminated areas with water and soap before leaving the work site. Keep away from sources of ignition.
7.1a	Prevent handling of incompatible substances or mixtures:	Avoid contact with strong acids and strong oxidizing substances. Incompatible with strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline.
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Good personal hygiene is necessary. Follow good laboratory
7.2	Conditions for safe storage, including any incompatibilities:	 hygiene and safety practices. Refer to product label for storage. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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		Avoid spills and release into the environment; keep away from
7.3	Specific end use(s):	watercourses.
1.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
	8: Exposure controls/personal protection	
<u>8.1</u> 8.1a	Control parameters: Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure limit), etc.: WEL = Workplace Exposure Limit. Sk = can be absorbed through skin.	Methanol: EH40 2005 UK Workplace Exposure Limits STEL: 333 mg/m ³ 15 minutes STEL: 250 ppm 15 minutes TWA: 266 mg/m ³ 8 hours TWA: 200 ppm 8 hours USA ACGIH Threshold Limit Values
		TWA- 200 ppm 8 hours TWA- 262 mg/m ³ 8 hours STEL- 250 ppm 15 minutes STEL- 328 mg/m ³ 15 minutes US NIOSH Recommended Exposure Limits TWA- 200 ppm 10 hours TWA- 260 mg/m ³ 10 hours STEL- 250 ppm 15 minutes STEL- 325 mg/m ³ 15 minutes OSHA Permissible Exposure Limits TWA- 200 ppm 8 hours TWA- 260 mg/m ³ 8 hours
		Formaldehyde EH40 2005 UK Workplace Exposure Limits STEL: 2.5 mg/m ³ 15 minutes STEL: 2 ppm 15 minutes TWA: 2 ppm 8 hours USA ACGIH Threshold Limit Values C: 0.300000 ppm OSHA PEL Subpart Z Standard - OSHA Specifically Regulated Chemicals/Carcinogens TWA 0.750000 ppm 8 hours STEL - 2.000000 ppm 15 minutes US NIOSH Recommended Exposure Limits TWA: 0.016000 ppm 10 hours CEIL - 0.100000 ppm 15 minutes
8.1b 8.1c	Appropriate engineering controls: Individual protection measures, such as personal protective equipment:	Wear gloves, lab coat, and protective goggles.
8.1d	Safety symbols:	
8.2	Exposure controls:	
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.
8.2c	Ventilation controls:	Provide adquate ventilation.
8.2d 8.2e	Reference to other sections: Eye/face protection:	Refer to Section 5 for additional information. Tightly fitting safety goggles. Use equipment for eye/face protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
8.2f	Skin protection:	Wear apron or protective clothing in case of contact.
8.2g	Hand protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740, Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only

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	<u>- 120070 000, 000#1 11-000-2-0, Elle</u>	and must be evaluated by an industrial bygionist and cafety officer familiar
		and must be evaluated by an industrial hygienist and safety officer familiar
		with the specific situation of the customers' anticipated uses of the product.
		It should not be construed as offering an approval for any specific use
		scenario.
8.2h	Respiratory equipment:	Where risk assessment shows air-purifying respirators are appropriate use
		a full-face respirator with multi-purpose combination (US) or type ABEK
		(EN 14387) respirator cartridges as a backup to engineering controls. If the
		respirator is the sole means of protection, use a full-face supplied air
		respirator. Use respirators and components tested and approved under
		appropriate government standards such as NIOSH (US) or CEN (EU).
8.2i	Other protection:	
		Wear appropriate clothing to prevent any possibility of skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift
		and before eating, smoking, and using the toilet. Promptly remove any
		clothing that becomes contaminated. Use appropriate skin cream to
		prevent drying of skin. When using do not eat, drink, or smoke. Wash
		promptly with soap and water if skin becomes contaminated.
8.2k	Thermal hazards:	None known.
8.21	Environmental exposure controls:	Not determined.
Section	n 9: Physical and chemical properties	
9.1	Information on basic physical and chemical	
9.1		•
0.4	properties:	
9.1a	Appearance (physical state, color, etc.):	Liquid; colorless; clear.
9.1b	Odor:	Pungent
9.1c	Odor threshold:	Not determined.
9.1d	pH:	6.8-7.4
9.1e	Melting point/freezing point (°C):	Not determined.
9.1f	Initial boiling point and boiling range:	Not determined.
9.1g	Flash point (°C):	85°C estimated value based on supplier data.
9.1h	Evaporation rate:	Not determined.
9.1i	Flammability (solid, gas):	Not determined.
9.1j	Upper/lower flammability or explosive limits:	Upper: 70%(V) estimated value.
		Lower: 7%(V) estimated value.
9.1k	Vapor pressure:	53 hPa at 39°C estimated value.
9.11	Vapor density (Air =1):	Not applicable.
9.1m	Relative density:	Not determined.
9.1n	Solubility(ies):	Readily miscible in water.
-		
9.10	Partition coefficient (N-octanol/water):	Not determined.
9.1p	Auto-ignition temperature (°C):	Not determined.
9.1q	Decomposition temperature (°C):	Not determined.
9.1r	Viscosity:	Not determined.
9.1s	Explosive properties:	Not determined.
9.1t	Oxidizing properties:	Not determined.
9.2	Other information:	None.
9.2a	Other physical or chemical parameters:	None.
0.24		
Santia	n 10: Stability and reactivity	
Section	Reactivity:	
40.4		
10.1		Strong acids. Strong oxidizing substances.
10.2	Chemical stability:	Stable under normal temperature conditions.
10.2 10.3	Chemical stability: Possibility of hazardous reactions:	Stable under normal temperature conditions. Not determined.
10.2	Chemical stability:	Stable under normal temperature conditions.
10.2 10.3	Chemical stability: Possibility of hazardous reactions:	Stable under normal temperature conditions. Not determined.
10.2 10.3 10.4	Chemical stability: Possibility of hazardous reactions: Conditions to avoid:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight.
10.2 10.3 10.4	Chemical stability: Possibility of hazardous reactions:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines,
10.2 10.3	Chemical stability: Possibility of hazardous reactions: Conditions to avoid:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates,
10.2 10.3 10.4 10.5	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline.
10.2 10.3 10.4	Chemical stability: Possibility of hazardous reactions: Conditions to avoid:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate:
10.2 10.3 10.4 10.5	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline.
10.2 10.3 10.4 10.5 10.6	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate:
10.2 10.3 10.4 10.5 10.6 Section	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate:
10.2 10.3 10.4 10.5 10.6 Section	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate:
10.2 10.3 10.4 10.5 10.6 Section	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate:
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde.
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. .
10.2 10.3 10.4 10.5 10.6 Section 11.1	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a 11.1b	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 Section 11.1 11.1a 11.1b	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section</u> 11.1 11.1a 11.1b	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section 11.1</u> 11.1a 11.1b	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section</u> 11.1 11.1a 11.1b 11.1c 11.1c 11.1d 11.1e	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section</u> 11.1 11.1a 11.1b 11.1b <u>11.1c</u> 11.1d 11.1c 11.1d 11.1e 11.1f	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization: Germ cell mutagenicity:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section</u> 11.1 11.1a 11.1b 11.1c 11.1c 11.1d 11.1e	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section</u> 11.1 11.1a 11.1b 11.1b <u>11.1c</u> 11.1d 11.1c 11.1d 11.1e 11.1f	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization: Germ cell mutagenicity:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td
10.2 10.3 10.4 10.5 10.6 <u>Section</u> 11.1 11.1a 11.1b 11.1b 11.1c 11.1d 11.1c 11.1d 11.1e	Chemical stability: Possibility of hazardous reactions: Conditions to avoid: Incompatible materials: Hazardous decomposition products: n 11: Toxicological information Information on toxicological effects: Name: Acute toxicity: Skin corrosion/irritation: Serious eye damage/irritation: Respiratory or skin sensitization: Germ cell mutagenicity:	Stable under normal temperature conditions. Not determined. Heat, flames, and sparks. Avoid exposure to high temperatures or direct sunlight. Strong bases, strong acids, strong oxidizing agents, alkali metals, amines, acid chlorides, acid anhydrides, reducing agents, peroxides, isocyanates, phenol, aniline. None under normal conditions. High temperatures generate: Vapors/gases/fumes of: Formaldehyde. . </td

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ACGIH - A2 (Suspected Human Carcinogen).

	Fixative SDS; Doc#F17-536-2-D; Effective	
14 41	Degraduation taxiait	ACGIH - A2 (Suspected Human Carcinogen).
11.1h	Reproductive toxicity:	Formaldehyde: Not determined. Methanol: Not determined.
1.1i	STOT-single exposure:	Formaldehyde: Not determined. Methanol: Not determined.
1.1j	STOT-repeated exposure:	Formaldehyde: Category 3, Respiratory Tract Irritation. Methanol: Not determined.
1.1k	Aspiration hazard:	Formaldehyde: Not determined. Methanol: Not determined.
1.11	Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	May enter by skin and/or eye contact; inhalation of vapors/mist/dust.
1.1m	Ingestion:	Harmful if swallowed.
1.1n	Inhalation:	May cause respiratory irritation.
1.10	Skin contact:	Harmful in contact with skin. Causes skin irritation. May cause an allergi skin reaction.
11.1p	Eye contact:	Causes serious eye irritation.
1.1q	Symptoms related to the physical, chemical and toxicological characteristics:	May cause sensitization by skin contact.
11.1r	Delayed and immediate effects as well as chronic effects from short and long term exposure:	May cause cancer. Suspected of causing genetic defects. May cause damage to organs.
11.1s	Numerical measures of toxicity (such as acute toxicity estimates):	Not determined.
11.1t	Interactive effects:	Not determined.
11.1u	Absence of specific data:	Not applicable.
11.1v	Mixtures:	Item is a mixture.
11.1w	Mixture vs. substance information:	See Section 3 for any substances in the mixture.
11.1x	Classification by National Toxicity Program (NTP):	Formaldehyde is known to be a human carcinogen. Methanol is not listed.
11.1x 11.1y	Classification by International Agency for Research on	Formaldehyde is classified in Group 1: Carcinogenic to Humans. Methanol
y	Cancer (IARC):	is not listed.
11.1z	Classification by OSHA 13:	Formaldehyde is not listed. Methanol is not listed.
11.12 11.1ab	Other information:	Because of the small quantity of product, the health hazard is small.
	12: Ecological information	
12.1	Toxicity:	Mixture not tested.
12.1a	Name:	Fixative.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	No data available.
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 assessment:	Not determined.
12.6	Other adverse effects:	Not determined.
Section	13: Disposal considerations	
13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety
		precautions applying to handling of the product.
13.1a	Description of waste residues and information on their	Dispose of waste and residues in accordance with local authority
	safe handling and methods of disposal, including the disposal of any contaminated packaging:	requirements. For the safety of persons conducting disposal, recycling or reclamation activities, please refer to the information in Section 8 (exposure controls and personal protection) of the SDS.
Section	14. Transport information	
	14: Transport information	
14.1	UN number:	Not applicable.
14.1 14.2	UN number: UN proper shipping name:	Not applicable. Not applicable.
14.1 14.2 14.3	UN number: UN proper shipping name: Transport hazard class(es):	Not applicable. Not applicable. Not applicable.
14.1 14.2 14.3 14.4	UN number: UN proper shipping name: Transport hazard class(es): Packing group:	Not applicable. Not applicable.
14.1 14.2 14.3 14.4 14.5	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards:	Not applicable. Not applicable. Not applicable. Not applicable.
14.1 14.2 14.3 14.4 14.5	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model	Not applicable. Not applicable. Not applicable.
14.1 14.2 14.3 14.4 14.5 14.5a	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?:	Not applicable. Not applicable. Not applicable. Not applicable.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?:	Not applicable. Not applicable. Not applicable. Not applicable. The product is not covered by these regulations. No.
Section 14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL	Not applicable. Not applicable. Not applicable. Not applicable.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code:	Not applicable. Not applicable. Not applicable. Not applicable. . The product is not covered by these regulations. No. None known. Not applicable.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7 14.7a	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL	Not applicable. Not applicable. Not applicable. Not applicable. . The product is not covered by these regulations. No. None known.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7 14.7a 14.7a 14.7b Section	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or	Not applicable. Not applicable. Not applicable. Not applicable. . The product is not covered by these regulations. No. None known. Not applicable. The product is not considered a dangerous good for transport.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7 14.7a 14.7b Section 15.1	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental regulations	Not applicable. Not applicable. Not applicable. Not applicable. . The product is not covered by these regulations. No. None known. Not applicable. The product is not considered a dangerous good for transport.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7 14.7 14.7 14.7 14.7 15.1 15.1a	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture:	Not applicable. Not applicable. Not applicable. Not applicable. . The product is not covered by these regulations. No. None known. Not applicable. The product is not considered a dangerous good for transport. Contact supplier. . USDA OSHA - Formaldehyde Standard Subpart Z 1910.1048. Formaldehyde is listed on 302, 304, 313, and RCRA code U122.
14.1 14.2 14.3 14.4 14.5a 14.5b 14.5a 14.5b 14.6 14.7 14.7a 14.7b Section 15.1 15.1a	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313):	Not applicable. Not applicable. Not applicable. Not applicable. The product is not covered by these regulations. No. None known. Not applicable. The product is not considered a dangerous good for transport. Contact supplier. . USDA OSHA - Formaldehyde Standard Subpart Z 1910.1048. Formaldehyde is listed on 302, 304, 313, and RCRA code U122. Methanol is listed on 313 and RCRA code U122.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7 14.7a 14.7b Section 15.1a 15.1a 15.1c	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313): USA Massachusetts Right to Know:	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. The product is not covered by these regulations. No. None known. Not applicable. The product is not considered a dangerous good for transport. Contact supplier. . USDA OSHA - Formaldehyde Standard Subpart Z 1910.1048. Formaldehyde is listed on 302, 304, 313, and RCRA code U122. Methanol is listed on 313 and RCRA code U122. Formaldehyde and methanol are listed.
14.1 14.2 14.3 14.4 14.5 14.5a 14.5b 14.6 14.7 14.7a 14.7a 14.7b	UN number: UN proper shipping name: Transport hazard class(es): Packing group: Environmental hazards: Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?: Is it a marine pollutant according to the IMDG code?: Special precautions for user: Transport in bulk according to Annex II of MARPOL and the IBC code: Other information: Classification for other modes of transport: 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture: Regional safety, health and environmental regulations specific for the product in question: USA SARA Components (such as 302/311/313):	Not applicable. Not applicable. Not applicable. Not applicable. The product is not covered by these regulations. No. None known. Not applicable. The product is not considered a dangerous good for transport. Contact supplier. . USDA OSHA - Formaldehyde Standard Subpart Z 1910.1048. Formaldehyde is listed on 302, 304, 313, and RCRA code U122. Methanol is listed on 313 and RCRA code U122.

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15.1g	EU Regulation 1907/2006 {REACH}:	
15.1h	Annex XIV substances subject to authorization:	Formaldehyde is listed.
15.1i	Substances of very high concern:	Fixative is not listed.
15.1j	Approved code of practice:	Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.
15.1k	Guidance notes:	Workplace exposure limits EH40.
15.11	EU legislation references:	 (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2a	Other regulatory information:	None.

6.1	Other information:	•	
6.1a	Date of revision:	12-May-2017	
6.1b	SDS number and revision:	F17-536-2-D	
6.1c	Supersedes SDS number and revision:	F17-536-2-C	
16.1d	Changes made to the previous version of the SDS:	Reviewed and updated document control numbers. Minor changes were made (corrected typos deleted redundant information, etc.).	
16.1e	Version of the SDS: Key/legend to abbreviations and acronyms used in the SDS:	deleted redundant information, etc.). ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE Acute Toxicity Estimate. BCF Bio Concentration Factor. CAS Chemical Abstracts Service. CLP Classification, Labelling and Packaging. CMR Carcinogen, Mutagen or Reproductive toxicant. COD Chemical Oxygen Demand. EC50 Half maximal effective concentration. EL40 Resource containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations. EINECS European Inventory of Existing Commercial chemical Substances. ELINCS European List of Notified Chemical Substances. ELINCS Median lethal dose. LogOw logarithm of the octanol/water partition coefficient. MARPOL 73/78 International	
		vPvB very Persistent very bioaccumulative.	
16.1f	Full text of hazard statements and/or precautionary statements not written out in full elsewhere:	All statements were written out in full.	

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DISCLAIMER:	This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.		
END OF SDS			

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TECHNOLOGIES

SAFETY DATA SHEET (SDS) according to Regulation (EC) No. 830/2015 amending 1907/2006

1.1	n 1: Identification of the substance/mixture and of th Product identifier:	Hoechst 33342
		HUECHSI 33342
.1a	Other means of identification:	1
.1b	Alternative product name(s)/ synonyms:	Hoechst stain, HS
1.1c	Product number/Catalog #(s):	556, 639
1.1d	Internal identification:	Hoechst stain; HS
1.2	Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
1.2a	Brief description of what the substance or mixture is intended to do:	Cell permeant blue fluorescent stain typically used to visualize the nuclei of cells.
1.3	Details of the supplier of the SDS:	
1.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)
1.3b	Address:	9401 James Avenue South, Suite 155
1.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA
1.3d	Phone number:	1-800-829-3194 and 952-888-8788
1.3e	Fax number:	952-888-8988
1.3f	Website: Email:	www.immunochemistry.com
1.3g 1.3h	Contact person at ICT:	help@immunochemistry.com Quality Documentation Department
1.311 1.4	Emergency telephone number:	ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide;
		ICT hours are 9 am-5 pm central time USA, Monday through Friday (excluding holidays). Chemtrec 24-hour access within USA and Canada: 1-800-424-9300 or +1 703-527-3887. Collect calls accepted.
Sectio	n 2: Hazards identification	
2.1	Classification of the substance or mixture:	
2.1a	Product is a:	Mixture.
2.1b	Classification according to (EC) No. 1272/2008 {CLP}:	Does not meet the criteria for classification.
2.1c	The most important adverse physiochemical, human health, and environmental effects:	Refer to Sections 9-12.
2.2	Label elements:	None.
2.2a	GHS label elements, including precautionary statements:	•
2.2b	Contains:	
2.2c	Labeling in accordance with (EC) No. 1272/2008:	
2.2d	Hazard Pictograms (Hazard Symbols):	None.
2.2e	Signal word:	None.
2.2f	Hazard statements:	None.
2.2g	Precautionary statements:	None.
2.2h	Supplementary precaution statements:	None.
2.3	Other hazards:	No additional information available.
2.3a	Does the chemical meet the criteria for PBT or vPvB?	Not applicable.
2.3b	Other hazards which do not result in classification:	Hoechst contains a low concentration of Bis benzimide H 33342
		trihydrochloride (CAS 23491-52-3) which is below the threshold for
		reporting. Hoechst is a suspected mutagen at high concentrations.
		Prolonged skin contact may cause redness and irritation. Because of
		the small quantity of product, the health hazard is small.
	n 3: Composition/information on ingredients	
3.1	Substance:	Item is a mixture therefore Section 3.1 is not applicable; see Section 3.2.
3.2	Mixture:	Item is a mixture.
	The chemical identity and concentration or	
	concentration ranges of all ingredients which are	
	hazardous and are present above their cut-off levels:	
	3.2a Chemical identity:	No ingredients identified for reporting in this section.
	on 4: First aid measures	
4.1	Description of first aid measures:	If concerned, get medical attention/advice and provide physician with SDS information. Wash contaminated clothing before re-use. Never

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4.1a	Inhalation:	Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
4.1b	Skin contact:	Wash skin thoroughly with soap and water for several minutes; continue to rinse for at least 15 minutes. Remove any contaminated clothing and shoes and wash thoroughly before reuse. Get medical attention if any discomfort continues.
4.1c	Eye contact:	Promptly wash eyes with plenty of water while lifting the eyelids. Make sure to remove any contact lenses from the eyes before rinsing. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
4.1d	Ingestion:	NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if any discomfort continues.
4.2	Most important symptoms and effects, both acute and delayed:	Hoechst is a suspected mutagen at high concentrations. Prolonged skin contact may cause redness and irritation. Because of the small quantity of product, the health hazard is small.
4.2a	Inhalation:	May cause coughing or mild irritation.
4.2b	Skin contact:	Prolonged skin contact may cause redness and mild irritation.
4.2c	Eye contact:	May cause temporary eye irritation.
4.2d	Ingestion:	May cause discomfort if swallowed.
4.3	Indication of any immediate medical attention and special treatment needed:	No specific first aid measures noted, but first aid may still be required in case of accidental exposure, inhalation, or ingestion of this product. If in doubt, get medical attention promptly!
4.3a	Notes to physician/first responder:	Treat symptomatically. Refer to Sections 5-8 for advice on personal protective equipment.
Sectio	n 5: Firefighting measures	
5.1	Extinguishing media:	This product is not flammable. Use fire-extinguishing media appropriate for the surrounding materials.
5.1a	Suitable extinguishing media:	Water spray, foam, dry powder, or carbon dioxide.
5.1b	Unsuitable extinguishing media:	None known.
5.2	Special hazards arising from the substance or mixture:	This product is not flammable. Product is not explosive. No dangerous reactions known under normal conditions of use.
5.2a	Hazardous combustion products:	None under normal conditions.
5.2b	Unusual fire & explosion hazards: Protective measures in fire:	No unusual fire or explosion hazards noted.
5.2c 5.3	Advice for firefighters:	Use protective equipment appropriate for surrounding materials. Keep away from heat, hot surfaces, sparks, open flames and other
0.0	Advice for menginers.	ignition sources. No smoking.
5.3a	Special firefighting procedures:	No specific firefighting procedure given.
5.3b	Special protective equipment and precautions for firefighters:	Wear full protective clothing, including self-contained breathing apparatus, if necessary. The product presents no special fire hazards in normal use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
6.1	n 6: Accidental release measures Personal precautions, protective equipment, and emergency procedures:	Use protective equipment appropriate for surrounding materials.
6.1a	General release measures:	No specific emergency measures are required other than good laboratory hygiene and safety practices for small spills. Wear suitable protective clothing, gloves and eye or face protection. Consult professional emergency personnel if concerned (see Section 8).
6.1b	Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	No specific emergency measures are required other than good laboratory hygiene and safety practices. Wear suitable protective clothing/gloves/eye/face protection to avoid contact with skin, eyes, and personal clothing; use an approved supplied-air respirator, in case of emergency (also refer to Section 8). Remove all sources of ignition. Ensure adequate ventilation and control dust/mist. Avoid breathing vapors, mist, or gas. Evacuate personnel to safe areas. Wear suitable protective clothing, gloves and eye or face protection to prevent any contamination. Consult professional emergency personnel if
6.1c	Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	concerned. Wear suitable protective clothing, gloves and eye or face protection to avoid contact; use an approved supplied-air respirator, in case of emergency (also refer to Section 8).
6.2 6.3	Environmental precautions: Methods and materials for containment and clean up:	Do not allow to enter drains, sewers, or watercourses. Contain any spills with dikes or absorbent materials to prevent migration and entry into sewers or water sources. Place in a suitable container for disposal in accordance with local waste regulations (see

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6.4	Reference to other sections:	 Section 13). Wash spill area thoroughly with plenty of soap and water. Avoid contact with skin or inhalation of spillage, dust, or vapor. Refer to Sections 8 and 13 for additional information.
0	7. Hendling and stars a	
7.1	7: Handling and storage Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Avoid creation of aerosol/mist/dust. Avoid inhalation of vapors/mist/dust. Prevent contact with skin and eyes. Use appropriate personal protection equipment (PPE). Thoroughly wash hands and contaminated areas with water and soap before leaving the work site. Keep away from sources of ignition.
7.1a	Prevent handling of incompatible substances or mixtures:	Avoid contact with strong acids and strong oxidizers.
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Good personal hygiene is necessary. Follow good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any incompatibilities:	Refer to product label. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid spills and release into the environment; keep away from watercourses.
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
Section		
Section 8.1	8: Exposure controls/personal protection Control parameters:	
8.1a	Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure limit), etc.: WEL = Workplace Exposure Limit. Sk = can be absorbed through skin.	Not available.
8.1b	Appropriate engineering controls:	•
8.1c	Individual protection measures, such as personal protective equipment:	Wear gloves, protective goggles, and lab coat.
8.1d	Safety symbols:	
8.2	Exposure controls:	
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Ensure that eyewash stations and safety showers are proximal to the workstation location.
8.2c	Ventilation controls:	Provide adequate ventilation.
8.2d 8.2e	Reference to other sections: Eye/face protection:	Refer to Section 5 for additional information. Wear approved chemical safety goggles where eye exposure is
0.20		reasonably probable or face shield if risk of splashing.
8.2f	Skin protection:	Wear apron or protective clothing in case of contact.
8.2g 8.2h	Hand protection: Respiratory equipment:	Use suitable protective gloves if risk of skin contact. Where risk assessment shows air-purifying respirators are appropriate
		use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
8.2i	Other protection:	Wear appropriate clothing to avoid skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated
8.2k	Thermal hazards:	None known under normal conditions of use.
8.21	Environmental exposure controls:	Not determined.
Section 9.1	9: Physical and chemical properties Information on basic physical and chemical	
J.I	properties:	
9.1a	Appearance (physical state, color, etc.):	Liquid; clear light yellow.
9.1b	Odor:	No characteristic odor.
9.1c	Odor threshold:	Not determined.

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9.1e Not determined. 9.1e Not applicable. 9.1g Flash point (C): Not applicable. 9.1e Plash point (C): Not applicable. 9.1 Upper/lower flammability of explosive limits: Not applicable. 9.1 Vapor pressure: Not determined. 9.1 Partition temperature (C): Not determined. 9.1 Prestion coefficient (Noctanol/water): Not determined. 9.1 Viscosny: Not determined. Not determined. 9.1 Viscosny: Not determined. Not determined. 9.1 Viscosny: Not determined. Not determined. 9.1 Pressibility of hexardous reactions: Not determined. Not determined. 9.2 Other information: None. No			tive: 05/12/2017; Supersedes: F17-556-2-C; Page 4 of 6
9.11 Initial foiling point (C): Not determined. 9.14 Flash point (C): Not applicable. 9.14 Flash point (C): Not applicable. 9.14 Plasmability (solid, gas): Not applicable. 9.11 Vapor density (Ar =1): Not determined. 9.11 Partition coefficient (N-octano/water): Not determined. 9.12 Partition coefficient (N-octano/water): Not determined. 9.14 Other information: Not determined. 9.15 Explosive properties: Not determined. 9.16 Other information: None. 9.20 Other physical or chemical parameters: None. 9.20 Other physical or chemical parameters: None. 9.20 Other physical or chemical parameters: None. 9.21 Other physical or chemical parameters: None. 9.22 Other physical or chemical parameters: None. 9.24 Other phys	9.1d	pH:	3.0-5.0
9.1g Flash point (°C): Not applicable. 9.1h Evaporation rate: Not deplicable. 9.1h Evaporation rate: Not applicable. 9.1 Upperformability (self); Not applicable. 9.1 Vapor pressure: Not determined. 9.1 Partition coefficient (Nociano/Iwater): Not determined. 9.10 Partition coefficient (Nociano/Iwater): Not determined. 9.11 Vapor pressure: Not determined. 9.12 Partition coefficient (Nociano/Iwater): Not determined. 9.14 Evaporation termined. Nore. 9.15 Explosite properties: Not determined. 9.16 Reschridty: Nore. 9.17 Other physical or chemical parameters: Nore. 9.20 Other physical or chemical parameters: Nore. 9.21 Other physical or chemical parameters: Nore. 10.2 Chemical stability of hazardous reactions: Hazardous paymetization: will not paymetization: 10.31 Reschridty: <t< td=""><td></td><td></td><td></td></t<>			
9.16 Evaporation rate: Not determined. 9.11 Flammability (or explosive limits: Not applicable. 9.11 Upper/lower flammability or explosive limits: Not applicable. 9.11 Vapor density (Air -1): Not determined. 9.11 Vapor density (Air -1): Not determined. 9.11 Solubility or explosive limits: Not determined. 9.11 Solubility or explosive limits: Not determined. 9.11 Solubility (Iss) Not determined. 9.11 Decomposition integenature (C): Not determined. 9.11 Obscilly importance: Not determined. 9.12 Outer information: None. 9.22 Other information: None. 9.23 Other physical or chemical parameters: None. 9.24 Control tors to avoit: To avoid product devaluation: 10.2 Chemical stability: Stable under normal temperature conditions. 10.2 Chemical stability: Stable under normal temperature conditions. 10.2 Chemical stability: Stable under normal temperature conditions. <td></td> <td></td> <td></td>			
9.11 Flammability (solid, gas): Not applicable. 9.11 Upperflower flammability or explosive limits. Not deplicable. 9.14 Vapor pressure: Not determined. 9.14 Vapor density (Air =1): Not determined. 9.14 Sublikity or explosive limits. Not determined. 9.15 Sublikity or explosive limits. Not determined. 9.16 Particion coefficient (N-octanol/water): Not determined. 9.17 Vaccossky: connisis. Not determined. 9.17 Vaccossky: connisis. Not determined. 9.17 Vaccossky: connisis. Not determined. 9.16 Upper Information: None. 9.20 Other Information: None. 9.20 Other Information: None. 10.1 Reactivity: Not determined. 10.2 Chemical stability of nazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunight or ight. 10.5 Incompatible materials: Evolution interpolycical effects: 10.6 Hazardous decompos	9.1g		Not applicable.
9.1 Upperformation 9.14 Vapor pressure: 9.14 Vapor pressure: 9.11 Vapor density (Ar = 1): 9.11 Not determined. 9.11 Solubility (les): 9.10 Solubility (les): 9.10 Partition coefficient (N-octanolwater): Not determined. 9.10 Partition coefficient (N-octanolwater): Not determined. 9.17 Viscosity: Not determined. 9.16 Viscosity: Not determined. 9.17 Viscosity: Not determined. 9.18 Explosity be properties: Not determined. 9.11 Viscosity: Note. Solubility of nearbility of ne	9.1h	Evaporation rate:	Not determined.
9.1 Upperformation 9.14 Vapor pressure: 9.14 Vapor pressure: 9.11 Vapor density (Ar = 1): 9.11 Not determined. 9.11 Solubility (les): 9.10 Solubility (les): 9.10 Partition coefficient (N-octanolwater): Not determined. 9.10 Partition coefficient (N-octanolwater): Not determined. 9.17 Viscosity: Not determined. 9.16 Viscosity: Not determined. 9.17 Viscosity: Not determined. 9.18 Explosity be properties: Not determined. 9.11 Viscosity: Note. Solubility of nearbility of ne	9.1i	Flammability (solid, gas):	Not applicable.
9.1k Vapor pressure: Not determined. 9.11 Vapor density (Air =1): Not determined. 9.11 Relative density: Not determined. 9.11 Solubility (ab): Solubility in the present of the partition coefficient (N-octanolwater): Not determined. 9.10 Solubility (ab): Not determined. 9.14 9.12 Auto-inflion temperature (C): Not determined. 9.14 9.11 Doxoting properties: Not determined. 9.15 9.12 Other information: None. 9.20 9.2 Other physical or chemical parameters: None. 9.20 9.2 Other information: None. 9.20 9.2 Other information: None. 9.20 0.2 Chemical stability: Stable under normal temperature conditions. 0.3.2 Chemical stability: Stable under normal temperature conditions. 0.4.1 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or of arest avoid product degradation. 0.5.1 Incompatible materials: Erronay olotizing substances.			
9.11 Vapor density (Mz = 1): Not determined. 9.11 Relative density: Not determined. 9.11 Solubility (les): Solubile in water. 9.12 Auto-ignition temperature (°C): Not determined. 9.12 Auto-ignition temperature (°C): Not determined. 9.12 Other information: None. 9.14 Viscosity: Not determined. 9.15 Colter information: None. 9.20 Other physical or chemical parameters: None. 9.16 Colter information: None. 9.21 Other physical or chemical parameters: None. 9.23 Other information: None. 10.2 Chemical stability: Stable undar normal temperature conditions. 10.3 Incompatible materials: Strong oudding substances. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or dreet subjet or flat. 11.1 Information Strong oudding substances. None under normal conditions. 8cetton 11: Toxicological information Not determined. Not determined. 11.16 Approxinstature ano			
9.1m Relative density: Not determined. 9.1n Solubility (e): Soluble in water. 9.10 Partition coefficient (Noctano/Water): Not determined. 9.10 Auto-inglino temperature (C): Not determined. 9.11 Oxiding properties: Not determined. 9.12 Oxiding properties: Not determined. 9.11 Oxiding properties: Not determined. 9.12 Oxiding properties: None. 9.2 Other physical or chemical parameters: None. 9.2 Other physical or chemical parameters: None. 9.10 Oxiding physical or chemical parameters: None. 9.2 Cheminod. To avoid product signalisation: 9.3 Proceeding stability of tegration. Not determined. 9.4 To avoid product signadobian stability. <			
9.10 Solubility(reis): Solubile in water. 9.10 Partinic coefficient (Noctanol/water): Not determined. 9.10 Decomposition temperature (°C): Not determined. 9.11 Coloration coefficient (Noctanol/water): Not determined. 9.12 Decomposition temperature (°C): Not determined. 9.15 Explosite properties: Not determined. 9.16 Explosite properties: Not determined. 9.20 Other physical or chemical parameters: None. 9.21 Reactivity: No data available. 10.2 Chemical stability of nazardous reactions: Hazardous polymerization: will not polymeriza. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 11.10 Hoazardous decomposition products: None under normal conditions. 11.10 Hazardous polymerization: will not polymerizati			
9.10 Partition coefficient (Nociano/Water): Not determined. 9.10 Auto-infinion temperature (°C): Not determined. 9.11 Oxidiang properties: Not determined. 9.12 Oxidiang properties: Not determined. 9.13 Oxidiang properties: Not determined. 9.14 Oxidiang properties: Not determined. 9.22 Other information: None. 9.23 Other physical or chemical parameters: None. 9.24 Other and the reactivity Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymerization. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunight or light. 10.4 Exclose the avoid stability of hazardous decomposition products: None under normal conditions. 10.5 Incompatible materials: Strong oxidiary substances. 10.6 Hazardous decomposition products: None determined. 11.1 Information Hoechst 33342 11.1.1 Avoid termined. Intermined. 11.1.2 Avoid termined. Intermined. 11.1.1 Avoid termined. Intermined. 11.1.1 Reproductive txoicity: Not d			
9.1p Auto-ignition temperature (*C): Not determined. 9.1q Decomposition temperature (*C): Not determined. 9.1d Decomposition temperature (*C): Not determined. 9.1f Cyticing properties: Not determined. 9.16 Explosive properties: Not determined. 9.11 Conterinformation: None. 9.20 Other physical or chemical parameters: None. 9.21 Chemical stability and reactivity None. 10.1 Reactivity: Stable under normal temperature conditions. 10.2 Chemical stability of hazardous reactions: Hazardous polymerization: will not polymeriza. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 11.6 Incompatible materials: Strong avoid/ang substraces. 11.6 Hazardous polymerization: will not polymerization: 11.1a Name: Hoechst 33342 11.1a Name: Hoechst 33342 11.1a Section on toxicological effects: Not determined. 11.1a Resprintation: <			
9.1q Decomposition temperature (*C): Not determined. 9.1s Explosive properties: Not determined. 9.1e Oxiding properties: Not determined. 9.2 Other information: None. 9.2a Other physical or chemical parameters: None. 9.2a Other physical or chemical parameters: None. 9.2 Other physical or chemical stability: Stable under normal temperature conditions. 10.2 Chemical stability: Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous decomposition avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong oxiding substances. 10.6 Hazardous decomposition products: None under normal conditions. 11.1 Auter toxicity: Not determined. 11.1.1 Auter toxicity: Not determined. 11.1.1 Skin corrosion/irritation: Not determined. 11.1.1 Skin corrosion/irritation: Not determined. 11.1.1 Scious eye damage/irritation: Not determined. 11.1.1 Scious eye damage/iritation: Not determined.			
9.1f Viscosity: Not determined. 9.16 Explosite properties: Not determined. 9.16 Explosite properties: Not determined. 9.20 Other physical or chemical parameters: None. 9.20 The stability and reactivity No data available. 10.1 Reactivity: No data available. 10.2 Chemical stability and reactivity: Stabile under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous phymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunifyhor right. 10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information: Not determined. 11.1 11.1 Not determined. 11.1 11.2 Kaite toxicity: Not determined. 11.1.6 Kaite toxicity: Not determined. 11.1.6 Respiratory or skin sensitization: Not determined. 11.1.6 </td <td></td> <td></td> <td></td>			
9.16 Explosive properties: Not determined. 9.10 Oxiding properties: None. 9.2a Other information: None. 9.2a Other physical or chemical parameters: None. 9.2b Other physical or chemical parameters: None under normal conditions. 9.2b Other physical or chemical parameters: None under normal conditions. 10.5 Incompatible materials: Strong oxidizing substances. None under normal conditions. 11.6 Hazardous decomposition products: None under normal conditions. None under normal conditions. 11.1a Name: Information: Not determined. 11.1a 11.1a Name: Not determined. 11.1a Name: 11.1a Skin corosion/infation			
9.10 Oxidizing properties: Not determined. 9.20 Other physical or chemical parameters: None. 9.21 Other physical or chemical parameters: None. 9.22 Other physical or chemical parameters: None. 9.23 Other physical or chemical stability: No data available. 10.1 Reactivity: Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunify for right. 10.5 Incompatible materials: Strong goxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. 11.1 Information on toxicological effects: Information: 11.1 Not determined. Not determined. 11.1.1 Acute toxicity: Not determined. 11.1.2 Respiratory or skin sensitization: Not determined. 11.1.6 Recipacity: Not determined. 11.1.1 Reproductive toxicity: Not determined. 11.1.1 Resproductive toxicity: Not det	9.1r		Not determined.
9.10 Oxidizing properties: Not determined. 9.20 Other physical or chemical parameters: None. 9.21 Other physical or chemical parameters: None. 9.22 Other physical or chemical parameters: None. 9.23 Other physical or chemical stability: No data available. 10.1 Reactivity: Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunify for right. 10.5 Incompatible materials: Strong goxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. 11.1 Information on toxicological effects: Information: 11.1 Not determined. Not determined. 11.1.1 Acute toxicity: Not determined. 11.1.2 Respiratory or skin sensitization: Not determined. 11.1.6 Recipacity: Not determined. 11.1.1 Reproductive toxicity: Not determined. 11.1.1 Resproductive toxicity: Not det	9.1s	Explosive properties:	Not determined.
9.2 Other information: None. 9.2a Other physical or chemical parameters: None. 9.2a Other physical or chemical parameters: None. 9.2a Other physical or chemical parameters: None. 10.4 Reactivity: No data available. 10.2 Chemical stability of hazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradiation, avoid exposure to high temperatures or direct sunlight or light. 10.5 incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information Information: Not determined. 11.1 Name: Hoechst 33342 Not determined. 11.1.6 Skin corrosio/urintation: Not determined. Not determined. 11.1.1 Reactivity: Not determined. Not determined. 11.1.1 Reactivity: Not determined. Not determined. 11.1.1 Reactivity: Not determined. Not determined. 11.	9.1t	Oxidizing properties:	Not determined.
9.2a Other physical or chemical parameters: None. Section 10: Stability and reactivity No data available. 10.1 Reactivity: Stable under normal temperature conditions. 10.2 Chemical stability: Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymeriza. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information Strong oxidizing substances. Information on toxicological effects: 11.1 Acute toxicity: Not determined. Not determined. 11.1.1 Skin corrosion/irritation: Not determined. Not determined. 11.1.1 Germ cell mutagenicity: Not determined. Not determined. 11.1.1 Strol oxidical studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1.1 STO			
Section 10: Stability and reactivity No data available. 10.2 Chemical stability: Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sublight or light. 10.5 Incompatible materials: Strong oxidizing substances. None 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information Information on toxicological effects: Iname: 11.1 Name: Not determined. Not determined. 11.1.6 Skincourskin/mation: Not determined. Not determined. 11.1.6 Skincourskin/mation: Not determined. Not determined. 11.1.1 Reproductive toxicity: Not determined. Not determined. 11.1.1 Stron-single exposure: Not determined. Not determined. 11.1.1 Stron-single exposure: Not determined. Not determined. 11.1.1 Formation on the likely routes of exposure Not determined.			
10.1 Reactivity: No data available. 10.2 Chemical stability: Stable under normal temperature conditions. 10.4 Possibility of hazardous reactions: Hazardous polymerization; will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: Nore under normal conditions. Section 11: Toxicological information 11.1 Information on toxicological effects: . 11.1.1 Name: Hoechst 33342 11.1.1 Serious eye damage/irritation: Not determined. 11.1.1 Serious eye damage/irritation: Not determined. 11.1.1 Respiratory or skin sensitization: Not determined. 11.1.1 Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster tung cells. Knowledge about health hazard is incomplete. 11.1.1 Regroductive toxicity: Not determined. 11.1.1 Strong exosure: Not determined. 11.1.1 Strong exosure: Not determined. 11.1.1 Strong exosure: Not determined. 11.1.1	0.20		
10.1 Reactivity: No data available. 10.2 Chemical stability: Stable under normal temperature conditions. 10.4 Possibility of hazardous reactions: Hazardous polymerization; will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: Nore under normal conditions. Section 11: Toxicological information 11.1 Information on toxicological effects: . 11.1.1 Name: Hoechst 33342 11.1.1 Serious eye damage/irritation: Not determined. 11.1.1 Serious eye damage/irritation: Not determined. 11.1.1 Respiratory or skin sensitization: Not determined. 11.1.1 Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster tung cells. Knowledge about health hazard is incomplete. 11.1.1 Regroductive toxicity: Not determined. 11.1.1 Strong exosure: Not determined. 11.1.1 Strong exosure: Not determined. 11.1.1 Strong exosure: Not determined. 11.1.1	Section	10: Stability and reactivity	
10.2 Chemical stability: Stable under normal temperature conditions. 10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong voidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information Strong voidizing substances. 11.1 Information on toxicological effects: . 11.1.6 Aneme: Hoechst 33342 11.1.6 Kein corrosion/irritation: Not determined. 11.1.1 Reform cell mutagenicity: Not determined. 11.1.1 Reform cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1.1 Formation on the likely routes of exposure: Not determined. 11.1.1 STOT-repeated exposure: Not determined. 11.1.1 STOT-repeated exposure: Not determined. 11.1.1 Tor ingle exposure: Not determined. <t< th=""><th></th><th></th><th>No data availabla</th></t<>			No data availabla
10.3 Possibility of hazardous reactions: Hazardous polymerization: will not polymerize. 10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information 11.1 Information on toxicological effects: - 11.1 Name: Hochest 33342 11.1.1 Name: Hochest 33342 11.1.1 Skin corrosion/irritation: Not determined. 11.1.1 Respiratory or skin sensitization: Not determined. 11.1.1 Respiratory or skin sensitization: Not determined. 11.1.1 Respiratory or skin sensitization: Not determined. 11.1.1 Strong oxidizing substances. Hochest 33342 11.1.1 Strong oxidizing substances. Not determined. 11.1.1 StrOT-single exposure: Not determined. 11.1.1 StrOT-single exposure: Not determined.<			
10.4 Conditions to avoid: To avoid product degradation, avoid exposure to high temperatures or direct sunlight or light. 10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information Historia and the substances. 11.1 Information on toxicological effects: . 11.1.10 Acute toxicity. Not determined. 11.1.12 Skin corrosion/irritation: Not determined. 11.1.14 Respiratory or skin sensitization: Not determined. 11.1.1 Germ cell mutagenicity: Not determined. 11.1.1 Germ cell mutagenicity: Not determined. 11.1.1 Respiratory or skin sensitization: Not determined. 11.1.13 Stronzingle exposure: Not determined. 11.1.1 Informat			Stable under normal temperature conditions.
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10.5 Incompatible materials: Strong oxidizing substances. 10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information 11.1 Information on toxicological effects: . 11.10 Active toxicity: Not determined. 11.11.2 Skin corrosion/irritation: Not determined. 11.11.6 Skin corrosion/irritation: Not determined. 11.11.6 Germ cell mutagenicity: Not determined. 11.11.6 Germ cell mutagenicity: Not determined. 11.11.7 Germ cell mutagenicity: Not determined. 11.11.11 Foregoated exposure: Not determined. 11.11.11 STOT-single exposure: Not determined. 11.11.11 STOT-sepated exposure: Not determined. 11.11 Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): May cause discomfort if swallowed. 11.11 Information on the likely routes of exposure: Not determined. 11.11 Information on the likely routes of exposure: Not determined. 11.11 Information on the likely routes of exposure: Not determined. <td>10.4</td> <td>Conditions to avoid:</td> <td></td>	10.4	Conditions to avoid:	
10.6 Hazardous decomposition products: None under normal conditions. Section 11: Toxicological information Information on toxicological effects: . 11.1a Information on toxicological effects: . . 11.1a Name: Hoechst 33342 . 11.1b Skin corrosion/initiation: Not determined. . 11.1c Skin corrosion/initiation: Not determined. . 11.1c Skin corrosion/initiation: Not determined. . 11.1f Gernogenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1g Carcinogenicity: Not determined. 11.11 STOT-repeated exposure: Not determined. 11.11 Information on the likely routes of exposure Mot determined. 11.11 Independent . . 11.11 Independent . . 11.11 Information on the likely routes of exposure Mot determined. 11.11 Information and act act: <			
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11.1 Information on toxicological effects: . 11.1a Name: Hoechst 33342 11.1b Acute toxicity: Not determined. 11.1c Skin corrosion/irritation: Not determined. 11.1d Respiratory or skin sensitization: Not determined. 11.1e Respiratory or skin sensitization: Not determined. 11.1f Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1g Carcinogenicity: Not determined. 11.1i STOT-single exposure: Not determined. 11.1i STOT-repeated exposure: Not determined. 11.1i Information on the likely routes of exposure May cause discomfort if swallowed. 11.1n Independent In high concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.1o Skin contact: Liquid may irritate skin. 11.1p Eye contact: Spray and vapor in the eyes may cause irritation and smarting. 11.1p System and cause coughing. It wit determined. 11.11, Information inger exposure:			
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11.1b Acute toxicity: Not determined. 11.1c Skin corrosion/irritation: Not determined. 11.1d Serious eye damage/irritation: Not determined. 11.1d Serious eye damage/irritation: Not determined. 11.1f Respiratory or skin sensitization: Not determined. 11.1f Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1f Germ cell mutagenicity: Not determined. 11.1h Reproductive toxicity: Not determined. 11.1i STOT-repeated exposure: Not determined. 11.1i STOT-repeated exposure: Not determined. 11.1i Information on the likely routes of exposure May enter by skin and/or eye contact; inhalation of vapors/mist/dust. 11.1n Inhalation: In high concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.1o Skin contact: Liquid may irritate scin. 11.1p Eye contact: Spray and vapor in the eyes may cause irritation and smarting. 11.1q Symptoms related to the physical, chemical and toxicological characteris			· Hooshat 22242
11.1c Skin corrosion/irritation: Not determined. 11.1d Serious eye damage/irritation: Not determined. 11.1e Respiratory or skin sensitization: Not determined. 11.1f Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1g Carcinogenicity: Not determined. 11.11 Reproductive toxicity: Not determined. 11.11 STOT-repeated exposure: Not determined. 11.11 Information on the likely routes of exposure May enter by skin and/or eye contact; inhalation of vapors/mist/dust. 11.11 Information on the likely routes of exposure May enter by skin and/or eye contact; inhalation of vapors/mist/dust. 11.11 Inhalation: In high concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.11 Skin contact: Liquid may irritate skin. 11.12 Pelayed and immediate effects as well as chronic effects from short and long term exposure: 11.14 Delayed and immediate effects as well as chronic effects from short and long term exposure: 11.11 Interactitiv effecteds: Not determined. <			
11.1d Serious eye damage/irritation: Not determined. 11.1e Respiratory or skin sensitization: Not determined. 11.1f Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1g Carcinogenicity: Not determined. 11.1h Reproductive toxicity: Not determined. 11.1i STOT-repeated exposure: Not determined. 11.1i STOT-repeated exposure: Not determined. 11.1i Information on the likely routes of exposure May enter by skin and/or eye contact; inhalation of vapors/mist/dust. 11.1n Inheation: In high concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.1.1 Information on the likely routes of exposure: In high concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.1o Skin contact: Liquid may irritate skin. 11.1p Eye contact: Spray and vapor in the eyes may cause irritation and smarting. 11.11 Inclosological characteristics: Not determined. 11.11 Delayed and immediate effects as well as chronic effects from short and long term e			
11.1e Respiratory or skin sensitization: Not determined. 11.1f Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1g Carcinogenicity: Not determined. 11.11 STOT-single exposure: Not determined. 11.11 STOT-repeated exposure: Not determined. 11.11 Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): May enter by skin and/or eye contact; inhalation of vapors/mist/dust. 11.10 Indestion: May cause discomfort if swallowed. 11.11 Indestion: In high concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.10 Skin contact: Liquid may irritate skin. 11.11 Delayed and immediate effects as well as chronic effects from short and long term exposure: Not determined. 11.11 Numerical measures of toxicity (such as acute toxicity (such as acute toxicity estimates): Not determined. 11.11 Absence of specific data: Not determined. Interactive effects: 11.11 Numerical measures of toxicity (such as acute toxicity (such as acute toxicity estimates): Not determined			
11.1f Germ cell mutagenicity: Toxicological studies are not yet available. In vitro DNA repair and inhibition tests suggest mutagenic effects in mouse fibroblasts and hamster lung cells. Knowledge about health hazard is incomplete. 11.1g Carcinogenicity: Not determined. 11.1h RTOT-single exposure: Not determined. 11.1i STOT-repeated exposure: Not determined. 11.1i Aspiration hazard: Not determined. 11.1i Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact): May cause discomfort if swallowed. 11.1n Inhealtion: In hagk concentrations, vapors may irritate throat and respiratory system and cause coughing. 11.1o Skin contact: Liquid may irritate skin. 11.1p Eye contact: Spray and vapor in the eyes may cause irritation and smarting. 11.1q Symptoms related to the physical, chemical and toxicological characteristics: Not determined. 11.1t Interactive effects as well as chronic effects from short and long term exposure: Not determined. 11.1t Interactive effects: Not determined. 11.1t Interactive effects: Not determined. 11.1p Knowich estimates): Not determined. 11.1p			Not determined.
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Section	n 12: Ecological information	
12.1	Toxicity:	
12.1a	Name:	Hoechst 33342.
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	Not determined.
12.2	Persistence and degradability:	There are no data on the degradability of this product.
12.3	Bioaccumulative potential:	No data available on bioaccumulation.
12.4	Mobility in soil:	The product is soluble in water.
12.5	Results of PBT and vPvB assessment:	Not determined.
12.6	Other adverse effects:	No data available.
Section	n 13: Disposal considerations	
13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety
		precautions applying to handling of the product.
13.1a	Description of waste residues and information on	Dispose of waste and residues in accordance with local authority
	their safe handling and methods of disposal,	requirements. For the safety of persons conducting disposal, recycling
	including the disposal of any contaminated	or reclamation activities, please refer to the information in Section 8
	packaging:	(exposure controls and personal protection) of the SDS.
Section	n 14: Transport information	
14.1	UN number:	Not applicable.
14.2	UN proper shipping name:	Not applicable.
14.3	Transport hazard class(es):	Not applicable.
14.4	Packing group:	Not applicable.
14.5	Environmental hazards:	•
14.5a	Is it environmentally dangerous according to UN	The product is not covered by these regulations.
	Model Regulations (IMDG Code, ADR, RID, and ADN)?:	
14.5b	Is it a marine pollutant according to the IMDG	No.
	code?:	· · ·
14.6	Special precautions for user:	None known.
14.7	Transport in bulk according to Annex II of MARPOL and the IBC code:	Not applicable.
14.7a	Other information:	The product is not considered a dangerous good for transport.
14.7b	Classification for other modes of transport:	Contact supplier.
Section 15.1	n 15: Regulatory information Safety, health and environmental regulations/legislation specific for the substance	•
15.1a	or mixture: Regional safety, health and environmental	
45.41	regulations specific for the product in question:	
15.1b	USA SARA Components (such as 302/311/313):	Not listed.
15.1c	USA Massachusetts Right to Know:	Not listed.
15.1d	USA Pennsylvania Right to Know:	Not listed.
15.1e	USA New Jersey Right to Know:	Not listed.
15.1f	USA California Prop. 65 Components: EU Regulation 1907/2006 {REACH}:	Not listed.
<u>15.1g</u> 15.1h	Annex XIV substances subject to authorization:	Not listed.
15.11 15.1i	Substances of very high concern:	Not listed.
15.1j	Approved code of practice:	Classification and labeling of substances and preparations dangerous
10.1		for supply. Safety data sheets for substances and preparations dangerous
15.1k	Guidance notes:	Workplace exposure limits EH40.
15.1k 15.1l	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of
10.11		substances and mixtures {CLP Regulation}. EC 830/2015. Regulation
		(EC) No 1907/2006 of the European Parliament and of the Council of
		18 December 2006 concerning the Registration, Evaluation,
		Authorisation and Restriction of Chemicals (REACH), establishing a
		Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and
		Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission
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15.2	Chemical safety assessment:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC
	Chemical safety assessment: Other regulatory information:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
15.2a	Other regulatory information:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Not required.
15.2a Section	Other regulatory information:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Not required.
15.2a Section 16.1	Other regulatory information: 16: Other information Other information:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Not required. None.
16.1 16.1a	Other regulatory information: 16: Other information Other information: Date of revision:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Not required. None.
15.2a Section 16.1	Other regulatory information: 16: Other information Other information:	Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Not required. None.

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Changes made to the previous version of the SDS: Key/legend to abbreviations and acronyms used in the SDS:	 Reviewed and updated document control numbers. ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road.
	ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage
	Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage
	of Dangerous Goods by Road
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	ATE Acute Toxicity Estimate.
	BCF Bio Concentration Factor.
	CAS Chemical Abstracts Service.
	CLP Classification, Labelling and Packaging.
	CMR Carcinogen, Mutagen or Reproductive toxicant.
	COD Chemical Oxygen Demand.
	EC European Commission.
	EC50 Half maximal effective concentration.
	EH40 Resource containing the list of workplace exposure limits for use
	with the Control of Substances Hazardous to Health Regulations.
	EINECS European Inventory of Existing Commercial chemical
	Substances.
	ELINCS European List of Notified Chemical Substances.
	EU European Union.
	GHS Globally Harmonized System of Classification and Labelling of
	Chemicals.
	H Statement GHS Hazard statement.
	IATA International Air Transport Association.
	IBC Intermediate Bulk Container.
	IC50 Half maximal inhibitory concentration.
	IMDG International Maritime Dangerous Goods.
	LC50 Median lethal concentration.
	LD50 Median lethal dose.
	LogPow logarithm of the octanol/water partition coefficient.
	MARPOL 73/78 International Convention for the Prevention of
	Pollution From Ships, 1973 as modified by the Protocol of 1978.
	OEL Occupational Exposure Limit.
	OSHA Occupational Safety and Health Administration (USA).
	PBT Persistent, Bioaccumulative, and Toxic.
	PEL Permissible Exposure Limit.
	RID The Regulations concerning the International Carriage of
	Dangerous Goods by Rail.
	SADT Self-Accelerating Decomposition Temperature.
	SARA Superfund Amendments and Reauthorization Act.
	SCBA Self-Contained Breathing Apparatus.
	SDS Safety Data Sheet.
	STOT Specific Target Organ Toxicity.
	STOT-RE Specific Target Organ Toxicity - Repeated Exposure.
	STOT-SE Specific Target Organ Toxicity - Single Exposure.
	UN United Nations.
	USA United States of America.
	vPvB very Persistent very bioaccumulative.
Full text of hazard statements and/or precautionary	All statements were written out in full.
	cific material designated and may not be valid for such material used
in combination with any other materials	or in any process. Such information is, to the best of the company's
	able as of the date indicated. However, no warranty guarantee or
	reliability, or completeness. It is the user's responsibility to satisfy
	in combination with any other materials knowledge and belief, accurate and relia