

Kit Components

Kit Product No.	Kit Product Description		
554714	BD Cytofix/Cytoperm [™] Fixation/Permeabilization Solution Kit		

Kit Component(s)	Kit Component(s) Description		
51-2091KZ	BD Perm/Wash™ Buffer		
51-2090KZ	BD Cytofix/Cytoperm [™] Fixation and Permeabilization Solution		

IMDG

Special precautions for user: Not regulated.

ΙΑΤΑ

Special precautions for user: Not regulated.

Please note: If a listed component does not have a corresponding document included, this means that the product is not hazardous and does not require a Safety Data Sheet.



SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product No.:	Product name:	Common name(s), synonym(s)
51-2091KZ	BD Perm/Wash™ Buffe	r No data available
1.2 Relevant identified uses o Identified uses:		nd uses advised against ustrial laboratory use. For research use only
Uses advised against:	Not for use in dia	gnostic or therapeutic procedures.
1.3 Details of the supplier of t Manufacturer Becton Dickinson France Erembodegem-Dorp 86	S.A.S. Belgian Branch	elephone: 32 2 400 98 95 ax: 32 2 401 70 94
9320 Erembodegem Belgium		
9320 Erembodegem Belgium	•	Office

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has not been classified as hazardous according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Not classified

2.2 Label Elements

Not applicable



2.3 Other hazards

Endocrine Disruption-Toxicity

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. **Endocrine Disruption-Ecotoxicity** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

General information: No hazardous ingredients.

SECTION 4: First aid measures

General:	Get medical attention if symptoms occur.			
4.1 Description of first aid measu Inhalation:	ures Provide fresh air, warmth and rest, preferably in comfortable upright sitting position.			
Skin Contact:	Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.			
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.			
Ingestion:	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.			
4.2 Most important symptoms and effects, both acute and delayed:	No data available.			



Hazards:	No data available.			
Treatment:	No data available.			
SECTION 5: Firefighting meas	ures			
General Fire Hazards:	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water spray to keep fire-exposed containers cool.			
5.1 Extinguishing media Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.			
Unsuitable extinguishing media:	Not applicable			
5.2 Special hazards arising from the substance or mixture:	Fire or excessive heat may produce hazardous decomposition products.			
5.3 Advice for firefighters Special fire fighting procedures:	No unusual fire or explosion hazards noted.			
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.			
SECTION 6: Accidental releas	e measures			
6.1 Personal precautions, protective equipment and emergency procedures:	Contact local authorities in case of spillage to drain/aquatic environment. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.			
6.1.1 For non-emergency personnel:	No data available.			

6.1.2 For emergency No data available. responders:

6.2 Environmental Precautions: Avoid release to the environment.



6.3 Methods and material for containment and cleaning up:	Absorb spillage with suitable absorbent material. Prevent runoff from entering drains, sewers, or streams. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.
6.4 Reference to other sections:	No data available.
SECTION 7: Handling and stora	ige:

7.1 Precautions for safe handling:	When using do not eat, drink or smoke. Read and follow manufacturer's recommendations. Use personal protective equipment as required.
7.2 Conditions for safe storage, including any incompatibilities:	Store in a cool, dry place. Keep container tightly closed.
Storage Temperature:	No data available.
7.3 Specific end use(s):	Reserved for industrial and professional use. Read label before use.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters Occupational Exposure Limits

None of the components have assigned exposure limits.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

DNEL-Values

Remarks: DNEL-Values

Critical component	Туре	Route of Exposure	Health Warnings	Remarks
Potassium chloride	Workers	Inhalation	Systemic, long-term; 1064 mg/m3	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 273 mg/m3	Repeated dose toxicity
	General population	Inhalation	Systemic, short-term; 1365 mg/m3	Repeated dose toxicity
	General population	Dermal	Systemic, short-term; 910 mg/kg body weight/day	Repeated dose toxicity



Workers	Dermal	Systemic, long-term; 303 mg/kg body weight/day	Repeated dose toxicity
General population	Oral	Systemic, short-term; 455 mg/kg body weight/day	Repeated dose toxicity
General population	Dermal	Systemic, long-term; 182 mg/kg body weight/day	Repeated dose toxicity
General population	Oral	Systemic, long-term; 91 mg/kg body weight/day	Repeated dose toxicity
Workers	Dermal	Systemic, short-term; 910 mg/kg body weight/day	Repeated dose toxicity
Workers	Inhalation	Systemic, short-term; 5320 mg/m3	Repeated dose toxicity

Disodium hydrogenorthophosph ate	General population	Inhalation	Systemic, long-term; 3.04 mg/m3	Repeated dose toxicity
	Workers	Eyes	Local effect;	No hazard identified
	Workers	Inhalation	Systemic, long-term; 4.07 mg/m3	Repeated dose toxicity

Sodium chloride	Workers	Dermal	Systemic, long-term; 295.52 mg/kg body weight/day	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 443.28 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 2068.62 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Systemic, short-term; 2068.62 mg/m3	Repeated dose toxicity
	General population	Inhalation	Systemic, short-term; 443.28 mg/m3	Repeated dose toxicity



Potassium dihydrogenorthophosp hate		Systemic, long-term; 3.04 mg/m3	Repeated dose toxicity
	Workers	Systemic, long-term; 4.07 mg/m3	Repeated dose toxicity

PNEC-Values

Remarks: PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
Disodium hydrogenorthophosph ate	Aquatic (freshwater)	0.05 mg/l	
	Aquatic (marine water)	0.005 mg/l	
	Sewage treatment plant	50 mg/l	

Sodium chloride	Soil	4.86 mg/kg	
	Aquatic (freshwater)	5 mg/l	
	Sewage treatment plant	500 mg/l	

Potassium dihydrogenorthophosp hate	,	0.005 mg/l	
	Sewage treatment plant	50 mg/l	
	Aquatic (freshwater)	0.05 mg/l	



Saponins	Aquatic (intermit. releases)	0.388 mg/l	
	Aquatic (freshwater)	0.039 mg/l	
	Aquatic (marine water)	0.004 mg/l	
	Sewage treatment plant	1 mg/l	

8.2 Exposure controls

Appropriate Engineering Controls:	No special requirements under ordinary conditions of use and with adequate ventilation.
Individual protection measure	es, such as personal protective equipment
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Hand Protection:	Material: Chemical resistant gloves Additional Information: Wash hands after contact. Material: Suitable gloves can be recommended by the glove supplier.
Skin and Body Protection:	Wear a lab coat or similar protective clothing.
Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Hygiene measures:	Observe good industrial hygiene practices.
Environmental Controls:	No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties Appearance

ppearance	
Physical state:	liquid
Form:	liquid
Color:	Brown



Odor:	Odorless
Odor Threshold:	No data available.
Freezing point:	The physical-chemical properties of this material have not been fully investigated.
Boiling Point:	No data available.
Flammability:	Not applicable
Upper/lower limit on flammabi	
Explosive limit - upper:	Not applicable
Explosive limit - lower:	Not applicable
Flash Point:	The physical-chemical properties of this material have not been fully investigated.
Self Ignition Temperature:	Not determined.
Decomposition Temperature:	Not applicable
pH:	Not applicable
Viscosity	
Dynamic viscosity:	Not determined.
Kinematic viscosity:	Not determined.
Flow Time:	Not applicable
Solubility(ies)	
Solubility in Water:	Soluble
Solubility (other):	The physical-chemical properties of this material have not been fully investigated.
Partition coefficient (n- octanol/water):	No data available.
Vapor pressure:	No data available.
Relative density:	No data available.
Density:	No data available.
Bulk density:	Not applicable
Relative vapor density: Particle characteristics	Not applicable
Particle Size Distribution:	Not applicable
Specific surface area:	Not applicable
Surface charge/Zeta potential:	Not applicable
Assessment:	Not applicable
Shape:	Not applicable
Crystallinity:	Not applicable



Surface treatment:	Not applicable
9.2 Other information Metal Corrosion:	The physical-chemical properties of this material have not been fully investigated.
SECTION 10: Stability and read	ctivity
10.1 Reactivity:	Material is stable under normal conditions.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	Not determined.
10.4 Conditions to avoid:	Avoid exposure to high temperatures or direct sunlight.
10.5 Incompatible Materials:	Metals. Water reactive material.
10.6 Hazardous Decomposition Products:	Stable; however, may decompose if heated.

SECTION 11: Toxicological information

Information on likely routes of exposure Inhalation: No data available.		
Skin Contact:	No data available.	
Eye contact:	No data available.	
Ingestion:	No data available.	
11.1 Information on toxicological effects		
Acute toxicity (list all possible routes of exposure)		
Oral Product:	Not classified for acute toxicity based on available data.	
Dermal		

Product:



Product:	Not classified for acute toxicity based on available data.
Repeated dose toxicity Product:	No data available.
Skin Corrosion/Irritation Product:	No data available.
Serious Eye Damage/Eye Irrita Product:	tion No data available.
Respiratory or Skin Sensitizati Product:	i on No data available.
Carcinogenicity Product:	No data available.
Germ Cell Mutagenicity	
In vitro Product:	No data available.
In vivo Product:	No data available.
Reproductive toxicity Product:	No data available.
Specific Target Organ Toxicity Product:	v - Single Exposure No data available.
Specific Target Organ Toxicity Product:	 Repeated Exposure No data available.
Aspiration Hazard Product:	No data available.
11.2 Information on health hazard	ds
Other hazards Product:	No data available.
Endocrine Disruption	



Product:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.;

SECTION 12: Ecological information

12.1 Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product:	No data available.
Aquatic Invertebrates Product:	No data available.
Toxicity to Aquatic Plants Product:	No data available.
Toxicity to microorganisms Product:	No data available.
Chronic hazards to the aquatic	environment:
Fish Product:	No data available.
Aquatic Invertebrates Product:	No data available.
Toxicity to Aquatic Plants Product:	No data available.
Toxicity to microorganisms Product:	No data available.
12.2 Persistence and Degradabilit	У
Biodegradation Product:	No data available.
BOD/COD Ratio Product:	No data available.



12.3 Bioaccumulative potential	
Bioconcentration Factor (BC Product:	F) No data available.
Partition Coefficient n-octan Product:	ol / water (log Kow) Log Kow: No data available.
12.4 Mobility in soil:	
Product	No data available.
12.5 Results of PBT and vPvB a	assessment:
Product	No data available.
12.6 Endocrine Disruption:	
Product:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 Other adverse effects:	
Other hazards Product:	No data available.
SECTION 13: Disposal consid	derations
13.1 Waste treatment methods	

General information:	Dispose of waste and residues in accordance with local authority requirements.
Disposal methods:	Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging:	No data available.



SECTION 14: Transport information

ADR

14.1 UN Number: 14.2 UN Proper Shipping Name: 14.3 Transport Hazard Class(es) Class: Label(s): Hazard No. (ADR): Tunnel restriction code: 14.4 Packing Group:	Not regulated. Not regulated. Not regulated. Not regulated. Not regulated. Not regulated. Not regulated.
14.5 Environmental Hazards: Marine Pollutant:	Not regulated. Not regulated.
14.6 Special precautions for user:	Not regulated.
ADN 14.1 UN Number: 14.2 UN Proper Shipping Name: 14.3 Transport Hazard Class(es) Class: Label(s): Hazard No. (ADR): Tunnel restriction code: 14.4 Packing Group:	Not regulated. Not regulated. Not regulated. Not regulated. Not regulated. Not regulated. Not regulated.
14.5 Environmental Hazards: Marine Pollutant:	Not regulated. Not regulated.
14.6 Special precautions for user:	Not regulated.

RID

14.1 UN Number:	Not regulated.
14.2 UN Proper Shipping Name	Not regulated.
14.3 Transport Hazard Class(es)	



Class:	Not regulated.
Label(s):	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards: Marine Pollutant:	Not regulated. Not regulated.
14.6 Special precautions for user:	Not regulated.
IMDG	
14.1 UN Number:	Not regulated.
14.2 UN Proper Shipping Name: 14.3 Transport Hazard Class(es)	Not regulated.
Class:	Not regulated.
Label(s):	Not regulated.
EmS No.:	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards: Marine Pollutant:	Not regulated. Not regulated.
	Not regulated.
14.6 Special precautions for user:	Not regulated.
ΙΑΤΑ	
14.1 UN Number:	Not regulated.
14.2 Proper Shipping Name:	Not regulated.

14.2 Proper Shipping Name:	Not regulated.
14.3 Transport Hazard Class(es):	
Class:	Not regulated.
Label(s):	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards:	Not regulated.
Marine Pollutant:	Not regulated.



14.6 Special precautions for user:

Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EU Regulations

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances: none

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances: none

EU. REACH Annex XIV, Substances Subject to Authorization: none

EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended: none

EU. Directive 2010/75/EU on Industrial Emissions (IPPC), Annex II, L 334/17: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended: none

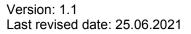
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended: none

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC): none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use: none





Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.: none

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:

Not applicable

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants: none

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
Sodium azide (Na(N3))	26628-22-8	0 - <0.1%

15.2 Chemical safety assessment:

No Chemical Safety Assessment has been carried out.

International regulations

Montreal protocol Not applicable

- Stockholm convention Not applicable
- Rotterdam convention Not applicable
- Kyoto protocol Not applicable

SECTION 16: Other information

Abbreviations and acronyms:

No data available.

Key literature references and European Chemicals Agency (ECHA): Information on Chemicals. **sources for data:**



Wording of the H-statements in section 2 and 3: none

No data available.

Training information:

SDS No.: UN51-2091KZ-1157-1-01

Disclaimer:

Disclaimer: The information contained herein has been obtained from various sources and is believed to be correct as of the date issued. However, neither BD nor any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability for a particular use of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. BD provides SDS in electronic form so the information may be more easily accessed. Due to the possibility of errors during transmission, BD makes no representations as to the completeness or accuracy of the information.



SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as

amended.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product No.:	Product name:	Common name(s), synonym(s)
51-2090KZ	BD Cytofix/Cytoperm [™] Fixation and Permeabilization Solution	

1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses: Scientific and industrial laboratory use. For research use only. Uses advised against: Not for use in diagnostic or therapeutic procedures.

1.3 Details of the supplier of the safety data sheet

Manufacturer

Becton Dickinson France S.A.S. Belgian Branch Erembodegem-Dorp 86 Erembodegem 9320 Belgium

Telephone: 32 2 400 98 95 **Fax:** 32 2 401 70 94

Contact Person: BD Biosciences - Centralized European Office Regulatory Compliance Department **E-mail:** help.biosciences@europe.bd.com

1.4 Emergency telephone number: 32 2 400 98 95

SECTION 2: Hazards identification

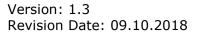
2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Health Hazards Skin sensitizer

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Category 1	H317: May	/ cause an	allergic skin	reaction.
	110 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		and gie bian	1000010111





	Germ Cell Mutagenicity	Category 2	H341: Suspected of causing genetic defects.	
	Carcinogenicity	Category 1B		
2.2 La	abel Elements			
	Contains:	formaldehyde%		
	(!			
	Signal Word:	Danger		
	Hazard Statement(s):	H317: May cause an allergic skin reaction. H341: Suspected of causing genetic defects. H350: May cause cancer.		
	Precautionary State Prevention:	P201: Obtain special P202: Do not handle read and understood P261: Avoid breathir P272: Contaminated of the workplace.	ng dust/fume/gas/mist/vapors/spray. work clothing should not be allowed out ve gloves/protective clothing/eye	
	Response:	advice/attention.	rritation or rash occurs: Get medical sed or concerned: Get medical	
	Disposal:	treatment and dispos	ntents/container to an appropriate sal facility in accordance with applicable , and product characteristics at time of	
2.3 0	ther hazards	No data available.		

SECTION 3: Composition/information on ingredients

3.2 Mixtures



Chemical name	Concentrati on	CAS-No.	EC No.	REACH Registration No.		Notes
formaldehyd e%	3 - <5%	50-00-0	200-001-8	No data available.	No data available.	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

Classification

Chemical name	CLP Classification	Notes
formaldehyde%	Eye Dam.: 1: H318STOT SE: 3: H335Skin Sens.: 1:	Note B,
	H317Acute Tox.: 3: H331Acute Tox.: 3: H301Muta.: 2:	Note D
	H341Carc.: 1B: H350Acute Tox.: 3: H311Skin Corr.:	
	1B: H314Aquatic Acute: 2: H401	

Regulation No. 1272/2008.

Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid...%'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

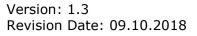
The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General:

Get medical attention if symptoms occur. May cause an allergic skin reaction. May cause cancer. Suspected of causing genetic defects.

4.1 Description of first aid measures





Inhalation:	Move to fresh air. Get medical attention if any discomfort continues.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms occur after washing.
Skin Contact:	Flush contaminated area with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.
Ingestion:	If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Get medical attention immediately.
4.2 Most important symptoms and effects, both acute and delayed:	Symptoms may be delayed.
4.3 Indication of any imme	diate medical attention and special treatment needed
Hazards:	May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer.
Treatment:	Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Get immediate medical advice/attention.

SECTION 5: Firefighting measures

General Fire Hazards:	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Use water to keep fire exposed containers cool and disperse vapors.	
5.1 Extinguishing media Suitable extinguishing media:	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.	
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.	
5.2 Special hazards arising from the substance or mixture:	Fire or excessive heat may produce hazardous decomposition products.	



Special fire fighting procedures:	No unusual fire or explosion hazards noted.
Special protective equipment for fire-	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber
fighters:	boots, and in enclosed spaces, SCBA.

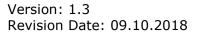
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. Contact local authorities in case of spillage to drain/aquatic environment.
6.2 Environmental Precautions:	Avoid release to the environment.
6.3 Methods and material for containment and cleaning up:	Stop leak if possible without any risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Collect for salvage or disposal. Prevent runoff from entering drains, sewers, or streams. Report spills as required to appropriate authorities. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.
6.4 Reference to other sections:	No data available.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling:	Wash promptly with soap and water if skin becomes contaminated. When using do not eat, drink or smoke. Read and follow manufacturer's recommendations. Use personal protective equipment as required.
7.2 Conditions for safe storage, including any incompatibilities:	Store in tightly closed original container in a dry, cool and well- ventilated place.
7.3 Specific end use(s):	Reserved for industrial and professional use. Read label before use.

SECTION 8: Exposure controls/personal protection





8.1 Control Parameters Occupational Exposure Limits

Chemical name	Туре	Exposure Limit Values		Source
formaldehyde%	STEL	2 ppm	2.5	UK. EH40 Workplace Exposure
			mg/m3	Limits (WELs) (2007)
	TWA	2 ppm	2.5	UK. EH40 Workplace Exposure
			mg/m3	Limits (WELs) (2007)

Biological Limit Values

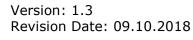
None.

DNEL-Values

Critical component	Туре	Route of Exposure	Health Warnings	Remarks
formaldehyde%	General population	Inhalation	Systemic, long- term; 3.2 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Systemic, long- term; 9 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Local, short- term; 0.375 mg/m3	
	Workers	Dermal	Systemic, long- term; 240 mg/kg body weight/day	Repeated dose toxicity
	Workers	Eyes	Local effect;	No data available
	Workers	Dermal	Local, short- term; 37 µg/cm2	
	Workers	Inhalation	Local, short- term; 0.75 mg/m3	

PNEC-Values

Critical component	Environmental	PNEC-Values	Remarks
	compartment		





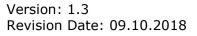
formaldehyde%	Sediment (marine water)	2.3 mg/kg
	Aquatic (freshwater)	0.44 mg/l
	Sewage treatment plant	0.19 mg/l
	Soil	0.2 mg/kg
	Aquatic (marine water)	0.44 mg/l
	Sediment (freshwater)	2.3 mg/kg

8.2 Exposure controls

Appropriate	Adequate ventilation should be provided whenever the material is
Engineering Controls:	heated or mists are generated.

Individual protection measures, such as personal protective equipment

General information:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.	
Eye/face protection:	Wear safety glasses with side shields (or goggles).	
Skin protection Hand Protection:	Use suitable protective gloves if risk of skin contact.	
Other:	Wear appropriate clothing to prevent repeated or prolonged skin contact.	
Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.	
Hygiene measures:	Do not eat, drink or smoke when using the product. Wash promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking and using the toilet. Avoid contact with skin.	





Environmental Controls: Data available upon request.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties Appearance **Physical state:** liquid Form: liquid Color: Clear Odor: Odorless No data available. **Odor Threshold:** Not applicable DH: **Freezing point:** The physical-chemical properties of this material have not been fully investigated. **Boiling Point:** No data available. **Flash Point:** The physical-chemical properties of this material have not been fully investigated. No data available. **Evaporation Rate:** Flammability (solid, gas): No data available. Flammability Limit - Upper (%): No data available. No data available. Flammability Limit - Lower (%): No data available. Vapor pressure: Vapor density (air=1): No data available. **Relative density:** No data available. Solubility(ies) Solubility in Water: Soluble The physical-chemical properties of this material Solubility (other): have not been fully investigated. Partition coefficient (n-No data available. octanol/water): **Autoignition Temperature:** No data available. **Decomposition Temperature:** No data available. SADT: No data available. Viscositv: Not determined. **Explosive properties:** No data available. No data available. **Oxidizing properties:** 9.2 Other information

VOC Content:

EC Directive 2004/42: 42.03 g/l ~4.2 %



(calculated)

10.1 Reactivity:	No data available.
10.2 Chemical Stability:	No data available.
10.3 Possibility of hazardous reactions:	None under normal conditions. Stable; however, may decompose if heated.
10.4 Conditions to avoid:	Avoid exposure to high temperatures or direct sunlight.
10.5 Incompatible Materials:	Strong oxidizing agents.
10.6 Hazardous Decomposition Products:	By heating and fire, harmful vapors/gases may be formed.

SECTION 11: Toxicological information

General information:	May cause allergic skin reaction based on human experience.
Information on likely ro Inhalation:	Dutes of exposure Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Ingestion:	Ingestion may cause irritation and malaise.
Skin Contact:	Prolonged or repeated contact may cause skin sensitization in susceptible individuals.
Eye contact:	Avoid contact with eyes.

11.1 Information on toxicological effects

Acute toxicity

Oral Product:

ATEmix: 2,379.25 mg/kg

Specified substance(s)



formaldehyde%	LD 50 (Rat): 460 mg/kg Experimental result, Weight of Evidence study
Dermal Product:	ATEmix: 6,423.98 mg/kg
Specified substance(s) formaldehyde%	LD 50 (Rabbit): 270 mg/kg
Inhalation Product:	ATEmix71.38 mg/l Vapour
Specified substance(s) formaldehyde%	No data available.
Repeated dose toxicity Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
Skin Corrosion/Irritation: Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
Serious Eye Damage/Eye Irritation:	
Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
Respiratory or Skin Sensitization: Product:	No data available.
Specified substance(s)	



formaldehyde%	Skin sensitization:, in vivo (Guinea pig): Sensitising
Germ Cell Mutagenicity	
In vitro Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
In vivo Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
Carcinogenicity Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
Reproductive toxicity Product:	No data available.
Specified substance(s) formaldehyde%	No data available.
Specific Target Organ To Product:	oxicity - Single Exposure No data available.
Specified substance(s)	
formaldehyde%	Inhalation - vapor: Respiratory system - Causes damage to organs.
Specific Target Organ To Product:	oxicity - Repeated Exposure No data available.
Specified substance(s) formaldehyde%	No data available.



Target Organs:

formaldehyde...% Respiratory system

Aspiration Hazard Product: No data available.

Specified substance(s) formaldehyde...% No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity	
Fish Product:	No data available.
Specified substance(s) formaldehyde%	LC 50 (Striped bass (Morone saxatilis), 96 h): 6.7 mg/l LC 50 (Black bullhead (Ameiurus melas), 96 h): 25 mg/l LC 50 (Morone saxatilis, 96 h): 6.7 mg/l (Static) Experimental result, Key study
Aquatic Invertebrates Product:	No data available.
Specified substance(s) formaldehyde%	EC 50 (Water flea (Daphnia pulex), 48 h): 5.8 mg/l Intoxication EC 50 (Daphnia pulex, 48 h): 5.8 mg/l (Static) Experimental result, Key study
Chronic Toxicity	
Fish Product:	No data available.
Specified substance(s) formaldehyde%	LC 50 (Danio rerio, 144 h): 6.9 mg/l (semi-static) Experimental result, Supporting study



Aquatic Invertebrates Product:	No data available.
Specified substance(s) formaldehyde%	LOAEL (Ceriodaphnia dubia, 7 d): 6 mg/l Experimental result, Not specified
Toxicity to Aquatic Plant Product:	t s No data available.
Specified substance(s) formaldehyde%	EC 50 (Green algae (Scenedesmus subspicatus), 72 h): 4.89 mg/l
12.2 Persistence and Degrae	dability
Biodegradation Product:	No data available.
Specified substance(s) formaldehyde%	Readily biodegradable (2 Weeks): 97 % Detected in water. Experimental result, Key study
BOD/COD Ratio Product	No data available.
Specified substance(s) formaldehyde%	No data available.
12.3 Bioaccumulative poten Product:	tial No data available.
Specified substance(s) formaldehyde%	Will not bio-accumulate. Bioconcentration Factor (BCF): < 1 Aquatic sediment Experimental result, Weight of Evidence study
12.4 Mobility in soil: Product: Specified substance(s) formaldehyde%	No data available. No data available.
12.5 Results of PBT and vPv Product:	B assessment: No data available.



Specified substance(s)

formaldehyde%	Not fulfilling PBT
	(persistent/bioaccumulative/toxic) criteria, Not fulfilling vPvB (very
	persistent/very bioaccummulative) criteria

12.6 Other adverse No data available.

effects:

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information:	Dispose of waste and residues in accordance with local authority requirements.
Disposal methods:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
	Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport information

ADR

14.1 UN Number: 14.2 UN Proper Shipping Name: 14.3 Transport Hazard Class(es)	Not regulated. Not regulated.
Class:	Not regulated.
Label(s):	Not regulated.
Hazard No. (ADR):	Not regulated.
Tunnel restriction code:	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards: Marine Pollutant:	Not regulated. Not regulated.
14.6 Special precautions for user:	Not regulated.

ADN

14.1 UN Number:	Not regulated.
14.2 UN Proper Shipping Name:	Not regulated.
14.3 Transport Hazard Class(es)	



Class:	Not regulated.
Label(s):	Not regulated.
Hazard No. (ADR):	Not regulated.
Tunnel restriction code:	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards:	Not regulated.
Marine Pollutant:	Not regulated.
14.6 Special precautions for user:	Not regulated.

RID

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14.1 UN Number:	Not regulated.
14.2 UN Proper Shipping Name:	Not regulated.
14.3 Transport Hazard Class(es)	_
Class:	Not regulated.
Label(s):	Not regulated.
EmS No.:	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards:	Not regulated.
Marine Pollutant:	Not regulated.



14.6 Special precautions for user:

Not regulated.

ΙΑΤΑ

14.1 UN Number:	Not regulated.
14.2 Proper Shipping Name:	Not regulated.
14.3 Transport Hazard Class(es):	
Class:	Not regulated.
Label(s):	Not regulated.
14.4 Packing Group:	Not regulated.
14.5 Environmental Hazards:	Not regulated.
Marine Pollutant:	Not regulated.
14.6 Special precautions for	Not regulated.
	Not regulated.
user:	

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer: none

Regulation (EC) No. 850/2004 on persistent organic pollutants: none

Regulation (EC) No. 689/2008 Import and export of dangerous chemicals: none

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC): none

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended: none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on



marketing and use:

The packaging shall be visibly, legibly and indelibly marked as follows: Restricted to professional users.

Chemical name	CAS-No.	Concentration
Formaldehyde	50-00-0	1.0 - 10%

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.: none

Directive 96/82/EC (Seveso III): on the control of major accident hazards involving dangerous substances: none

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants: none

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work: none

15.2 Chemical safety No Chemical Safety Assessment has been carried out. **assessment:**

SECTION 16: Other information

Revision Information: Not relevant.

References	

PBTPBT: persistent, bioaccumulative and toxic substance.vPvBvPvB: very persistent and very bioaccumulative substance.

Key literature references No data available. and sources for data:

Wording of the H-statements in section 2 and 3

- H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.



H350	May cause cancer.
H401	Toxic to aquatic life.

Training information: No data available.

Classification according to Regulation (EC) No 1272/2008 as amended.

Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350

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