

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Revision Date 30-Nov-2024 **Revision Number** 5

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THECOMPANY/UNDERTAKING

1.1. Product identifier

Product Description: RNA sample loading buffer, no ethidium bromide

Cat No.: J61937

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals. No Information available Uses advised against

1.3. Details of the supplier of the safety data sheet

Company

Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific)

Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom

Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99 CHEMTREC Tel. No. US:001-800-424-9300 / Europe:001-703-527-3887

Poison Centre - Emergency

information services

01 809 2166 (8am-10pm, 7 days a week)

Malta: +356 2395 2000 Cyprus: +357 2240 5611

SECTION 2: HAZARDS IDENTIFICATION

Ireland: National Poisons Information Centre (NPIC) -

2.1. Classification of the substance or mixture

GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Skin Sensitization Category 1 (H317)

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Carcinogenicity
Reproductive Toxicity

Category 1B (H350) Category 1B (H360D)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H317 - May cause an allergic skin reaction

H350 - May cause cancer

H360D - May damage the unborn child

Precautionary Statements

P201 - Obtain special instructions before use

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

Additional EU labelling

Restricted to professional users

2.3. Other hazards

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Formamide	75-12-7	EEC No. 200-842-0	62.5	Repr. 1B (H360D)
Water	7732-18-5	231-791-2	36.8875	-
Formaldehyde	50-00-0	200-001-8	0.35	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335) Muta. 2 (H341) Carc. 1B (H350)

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4-Morpholinepropanesulfonic acid	1132-61-2	EEC No. 214-478-5	0.2625	-

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Formaldehyde	Skin Corr. 1B :: C>=25% Eye Irrit. 2 :: 5%<=C<25% Skin Irrit. 2 :: 5%<=C<25% Skin Sens. 1 :: C>=0.2% STOT SE 3 :: C>=5%	-	-

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists,

call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

4.2. Most important symptoms and effects, both acute and delayed

May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest

pain, muscle pain or flushing

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Carbon dioxide (CO₂). Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

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Hazardous Combustion Products

Nitrogen oxides (NOx), Sulfur oxides.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1D Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

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Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC

Component	The United Kingdom	European Union	Ireland
Formamide	STEL: 30 ppm 15 min		TWA: 10 ppm 8 hr.
	STEL: 56 mg/m ³ 15 min		TWA: 18 mg/m ³ 8 hr.
	TWA: 20 ppm 8 hr		STEL: 30 ppm 15 min
	TWA: 37 mg/m ³ 8 hr		STEL: 54 mg/m ³ 15 min
Formaldehyde	STEL: 2 ppm 15 min	TWA: 0.37 mg/m ³ (8h)	TWA: 0.3 ppm 8 hr.
	STEL: 2.5 mg/m ³ 15 min	TWA: 0.62 mg/m ³ (8h)	TWA: 0.5 ppm 8 hr. for the
	TWA: 2 ppm 8 hr	TWA: 0.3 ppm (8h)	healthcare, funeral and
	TWA: 2.5 mg/m ³ 8 hr	TWA: 0.5 ppm (8h)	embalming sectors until July
	Carc.	Skin	11, 2024
		STEL: 0.74 mg/m ³ (8h)	TWA: 0.37 mg/m ³ 8 hr.
		STEL: 0.6 ppm (8h)	TWA: 0.62 mg/m ³ 8 hr. for
			the healthcare, funeral and
			embalming sectors until July
			11, 2024
			STEL: 0.6 ppm 15 min
			STEL: 0.738 mg/m ³ 15 min
			STEL: 0.62 mg/m ³ 15 min

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

C	Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
1	Formamide 5-12-7 (62.5)				DNEL = 0.952mg/kg bw/day
	ormaldehyde 0-00-0 (0.35)			DNEL = 37µg/cm2	DNEL = 240mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Formamide 75-12-7 (62.5)				DNEL = 6.6mg/m ³
Formaldehyde 50-00-0 (0.35)	DNEL = 0.75mg/m ³		DNEL = 0.375mg/m ³	DNEL = 9mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Formamide	PNEC = 0.5mg/L	PNEC = 1.26mg/kg	PNEC = 5mg/L	PNEC = 100mg/L	PNEC =
75-12-7 (62.5)		sediment dw		-	0.151mg/kg soil dw
Formaldehyde	PNEC = 0.44mg/L	PNEC = 2.3mg/kg	PNEC = 4.44mg/L	PNEC = 0.19mg/L	PNEC = 0.2mg/kg
50-00-0 (0.35)		sediment dw			soil dw

	Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Г	Formamide	PNEC = 0.5mg/L				

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75-12-7 (62.5)				
Formaldehyde	PNEC = 0.44mg/L	PNEC = 2.3mg/kg		
50-00-0 (0.35)		sediment dw		

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eve Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

Glove material Natural rubber Nitrile rubber Neoprene PVC	Breakthrough time See manufacturers recommendations	Glove thickness	EU standard EN 374	Glove comments (minimum requirement)
PVC				

Skin and body protection Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced Recommended Filter type: Particulates filter conforming to EN 143

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure Small scale/Laboratory use

limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Particle filtering: EN149:2001 When RPE is used a face piece Fit Test should be conducted

No information available. **Environmental exposure controls**

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance

No information available Odor **Odor Threshold** No data available No data available Melting Point/Range **Softening Point** No data available No information available **Boiling Point/Range**

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Liquid

Flammability (liquid) No data available Flammability (solid,gas) Not applicable

Explosion Limits No data available

Flash Point No information available Method - No information available

Autoignition TemperatureNo data availableDecomposition TemperatureNo data availablepHNo information availableViscosityNo data available

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowFormamide-0.82Formaldehyde-0.354-Morpholinepropanesulfonic acid-2.94

Vapor Pressure23 hPa @ 20 °CDensity / Specific GravityNo data available

Bulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)Particle characteristics(liquid) Not applicable

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous PolymerizationNo information available.Hazardous ReactionsNone under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Sulfur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met Dermal Based on available data, the classification criteria are not met

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Inhalation Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Formamide	LD50 = 5577 mg/kg (Rat)	LD50 = 6 g/kg (Rabbit)	LC50 > 21 mg/L (Rat) 4 h
Water	-	-	-
Formaldehyde	500 mg/kg (Rat)	LD50 = 270 mg/kg (Rabbit)	0.578 mg/L (Rat) 4 h
			- ` '
4-Morpholinepropanesulfonic acid	LD50>2g/kg (rat)	-	-

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available Skin Category 1

Component	Test method	Test species	Study result
Formaldehyde	Skin sensitization	Man	Sensitizer
50-00-0 (0.35)	Test method Patch Test	guinea pig	Sensitization
	Respiratory sensitization in vitro		

No information available

No data available (e) germ cell mutagenicity;

(f) carcinogenicity; Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Formaldehyde	Carc Cat. 1B	Cat 3		Group 1

Category 1B (g) reproductive toxicity;

No data available (h) STOT-single exposure;

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects, both acute and Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling delayed

of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any

known or suspected endocrine disruptors.

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity Ecotoxicity effects

Freshwater Fish Freshwater Algae Water Flea Component EC50: > 500 mg/L, 96h Formamide LC50: = 9135 mg/L, 96h static EC50: > 500 mg/L, 48h (Brachydanio rerio) (Daphnia magna) (Desmodesmus subspicatus) EC50: > 500 mg/L, 72h (Desmodesmus subspicatus) Leuciscus idus: LC50 = 15 mg/L EC50 = 20 mg/L 96hEC50 (72h) = 4.89 mg/L Formaldehyde EC50 = 2 mg/L 48h(Desmodesmus subspicatus) 96h 4-Morpholinepropanesulfonic acid >100 mg/L 48h

Component	Microtox	M-Factor
Formamide	EC50 > 10000 mg/L 17 h	

12.2. Persistence and degradability

Persistence Miscible with water, Persistence is unlikely, based on information available.

Component	Degradability
Formaldehyde	Readily biodegradable (OECD guideline 301A, 301C and 301D)
50-00-0 (0.35)	under aerobic and anaerobic conditions.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Formamide	-0.82	No data available
Formaldehyde	-0.35	No data available
4-Morpholinepropanesulfonic acid	-2.94	No data available

12.4. Mobility in soil

The product is water soluble, and may spread in water systems Will likely be mobile in the

environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB

assessment

No data available for assessment.

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused

Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

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European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

IATA Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk

according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Formamide	75-12-7	200-842-0	-	-	X	X	KE-17231	X	X
Water	7732-18-5	231-791-2	-	-	X	X	KE-35400	Х	-
Formaldehyde	50-00-0	200-001-8	-	-	X	X	KE-17074	X	X
4-Morpholinepropanesulfonic acid	1132-61-2	214-478-5	-	-	Х	Х	2010-3-42	-	Х
							23		

Component CAS No	TSCA	TSCA Inventory notification -	DSL	NDSL	AICS	NZIoC	PICCS
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			Active-Inactive					
Formamide	75-12-7	X	ACTIVE	Х	-	Х	Х	Х
Water	7732-18-5	X	ACTIVE	Х	-	Х	Х	Х
Formaldehyde	50-00-0	Х	ACTIVE	Х	-	Х	Х	Х
4-Morpholinepropanesulfonic acid	1132-61-2	Х	ACTIVE	Х	-	Х	Х	-

Legend: X - Listed '-' - Not Listed KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Formamide	75-12-7	-	Use restricted. See entry 30. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	SVHC Candidate list - Toxic for reproduction (Article 57 c)
Water	7732-18-5	-	-	-
Formaldehyde	50-00-0	-	Use restricted. See entry 72. (see link for restriction details) Use restricted. See entry 77. (see link for restriction details) Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-
4-Morpholinepropanesulfonic acid	1132-61-2	-	-	-

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links

https://echa.europa.eu/authorisation-list https://echa.europa.eu/substances-restricted-under-reach https://echa.europa.eu/candidate-list-table

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Formamide	75-12-7	Not applicable	Not applicable
Water	7732-18-5	Not applicable	Not applicable
Formaldehyde	50-00-0	5 tonne	50 tonne
4-Morpholinepropanesulfoni	1132-61-2	Not applicable	Not applicable
c acid			

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

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Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

Water endangering class = 3 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Formamide	WGK1	
Formaldehyde	WGK 3	Krebserzeugende Stoffe - : 5 mg/m³ (Massenkonzentration)
4-Morpholinepropanesulfonic acid	WGK1	

Component	France - INRS (Tables of occupational diseases)
Formaldehyde	Tableaux des maladies professionnelles (TMP) - RG 43

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Formaldehyde 50-00-0 (0.35)		Group I	

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H317 - May cause an allergic skin reaction

H350 - May cause cancer

H360D - May damage the unborn child

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H314 - Causes severe skin burns and eye damage

H315 - Causes skin irritation

H318 - Causes serious eye damage

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H335 - May cause respiratory irritation

H341 - Suspected of causing genetic defects

Legend

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CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

Substances List **ENCS** - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

ICAO/IATA - International Civil Aviation Organization/International Air **Transport Association**

MARPOL - International Convention for the Prevention of Pollution from

Ships

BCF - Bioconcentration factor

ATE - Acute Toxicity Estimate VOC - (Volatile Organic Compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data **Health Hazards** Calculation method **Environmental hazards** Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Prepared By Health, Safety and Environmental Department

Revision Date 30-Nov-2024 **Revision Summary** Not applicable.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text

End of Safety Data Sheet