Safety Data Sheet

Infosafe No™	3CHKI	Issue Date : January 2020	RE-ISSUED by ABS

Product Name : **FORMALDEHYDE BUFFERED 20%**

Classified as hazardous

1. Identification

GHS Product Identifier	FORMALDEHYDE BUFFERED 20%
Product Code	AF20
Company Name	AUSTRALIAN BIOSTAIN Pty Ltd
Address	24 - 28 Stratton Drive, Traralgon, Victoria, Australia, 3844 www.australianbiostain.com.au
Telephone/Fax Number	Tel: (03) 5176 2855
Emergency phone number	CHEMCALL (24 hours): 1800 127 406 (Australia) / +64-4-917-9888 (International)
Recommended use of the chemical and restrictions on use	Class II In vitro diagnostic reagent, intended for the preservation of samples for later morphological studies and/or diagnostic protocols.
Other Information	Australian Biostain Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Australian Biostain Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Australian Biostain Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture	Carcinogenicity: Category 1B Acute Toxicity - Oral: Category 4 Acute Toxicity - Dermal: Category 4 Acute Toxicity - Inhalation: Category 4 Eye Damage/Irritation: Category 2A Specific Target Organ Toxicity - Single Exposure Category 3 (respiratory tract irritation) Sensitization - Skin: Category 1 Skin Corrosion/Irritation: Category 2
Signal Word (s)	DANGER
Hazard Statement (s)	H350 May cause cancer. H302 Harmful if swallowed. H312 Harmful in contact with skin. H332 Harmful if inhaled. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H317 May cause an allergic skin reaction. H315 Causes skin irritation.
Pictogram (s)	Health hazard, Corrosion, Exclamation mark

Precautionary statement – Prevention	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required.

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Precautionary statement – Response	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P362 Take off contaminated clothing and wash before reuse. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P308+P313 IF exposed or concerned: Get medical advice/attention.
Precautionary statement – Storage	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Precautionary statement – Disposal	P501 Dispose of contents/container to anapproved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization	Liquid
Information on Composition	Stabilised with methanol. Contains various salts as buffering agents.

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Formaldehyde	50-00-0	8 %		
Methanol	67-56-1	<2.4 %		
di-Sodium hydrogen orthophosphate anhydrous	7558-79-4	<1 %		
Sodium dihydrogen phosphate anhydrous	7558-80-7	<1 %		
Water to make a total of 100%	7732-18-5	-		

4. First-aid measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. Give water to drink. DO NOT INDUCE VOMITING. Seek medical advice if symptoms persist.
Skin	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures

Hazards from Combustion Products	May liberate toxic fumes in fire including formic acid, methanol, carbon monoxide and carbon dioxide.
Specific Methods	Small fire: Use foam, dry chemical, CO2 or water spray. Large fire: Use foam, fog or water spray. Do not use water jets. If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers. Alcohol resistant foam is preferred however fine water spray can be used.
Precautions in connection with Fire	Wear SCBA, fully-encapsulating, gas-tight suit and structural firefighting uniform when handling leaking or damaged containers and equipment. SCBA and chemical splash suits will offer limited protection for brief exposure provided there is no risk of ignition.

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6. Accidental release measures

Personal Precautions	Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Absorb or contain liquid with sand, earth or spill control material. Shovel up using non sparking tools and place in a labelled, sealable container for subsequent safe disposal. Put leaking containers in a labelled drum or overdrum.
Clean-up Methods - Large Spillages	Seek expert advice on handling and disposal.

7. Handling and storage

Precautions for Safe Handling	Avoid generation of vapours/aerosols. Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Work under hood. Avoid exposure - obtain special instructions before use.
Conditions for safe storage, including any incompatabilities	Store in cool place and out of direct sunlight. Store away from sources of heat or ignition. Store in well ventilated area. Store away from oxidising agents, acids, alkalis, metal salts and foodstuff. Keep containers closed at all times - check regularly for leaks.

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Formaldehyde	2.5	2	1.2	1	
Methanol	328	250	262	200	

Other Exposure Information

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Note: Absorption through skin may be a significant route of exposure for methyl alcohol.

Note: Sensitiser (for formaldehyde). Known to act as a sensitiser. - Safe Work Australia. Sensitiser notice: Some substances can cause a specific immune response in some people. Such substances are called sensitisers and the development of a specific immune response is termed `sensitisation'. Exposure to a sensitiser, once sensitisation has occurred, may manifest itself as a skin rash or inflammation or as an asthmatic condition, and in some individuals this reaction can be extremely severe.

Appropriate engineering controls	Maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk.

	Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Clean impervious clothing should be worn, preferably with an apron for extra protection. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Liquid
Odour	Pungent, suffocating odour.
Solubility in Water	Completely miscible.
Partition Coefficient: n-octanol/water	Log P(oct) = 0.35 (experimental) (formaldehyde).

10. Stability and reactivity

Chemical Stability	Stable under normal use conditons.
Conditions to Avoid	Open flames, heat, hot surfaces, sparks and other ignition sources.
Incompatible Materials	Strong oxidizing agents, strong acids, strong bases, alkali metals.
Hazardous Decomposition Products	Formic acid, methanol, carbon monoxide and carbon dioxide.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): >200 mg/kg (Formaldehyde).
Ingestion	Harmful if swallowed. Ingestion may cause irritation of the mouth, throat and stomach resulting in nausea. In extreme cases swallowing can result in vomiting, diarrhoea, abdominal pain, convulsions, chemical burns, loss of consciousness, collapse and possible death. Risk of perforation in the oesophagus and stomach. Systemic effects: narcosis and blindness.
Inhalation	Harmful if inhaled. Inhalation may lead to the formation of oedemas in the respiratory tract. Vapour is irritating to mucous membranes and the respiratory tract. Inhalation can result in headache, dizziness and possible nausea.
Skin	May cause on allergic skin reaction. Repeated or prolonged skin contact may lead to allergic contact dermatitis. A skin sensitiser.
Eye	May be an irritant to the eye.
Skin Sensitisation	Formaldehyde: Known to act as a sensitiser.
Carcinogenicity	H350 May cause cancer. Formaldehyde [50-00-0] is evaluated in the IARC Monographs (Vol. 88; in preparation) as Group 1: Carcinogenic to humans. For addition information see IARC publication: http://monographs.iarc.fr/ENG/Monographs/vol100F/mono100F-29.pdf
Reproductive Toxicity	Formaldehyde [resp], human: one study suggests a slight percentage increase in spontaneous abortion and subtle neurobehavioral abnormalities, animal-decreased sperm motility, reduced fetal and maternal weight.
Chronic Effects	Repeated or prolonged skin contact may cause chronic dermatitis. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
Mutagenicity	Formaldehyde [50-00-0]: DNA damage system-human: fibroblast 100 mmol/l.

12. Ecological information

Ecological Information	The following statements refer to individual components of the preparation:
Persistence and degradability	Abiotic degradation: Rapid degradation. (air, formaldehyde) Biologic degradation: Biodegradation: 97.4 % /5 d (Formaldehyde). Readily biodegradable. COD: 1.06 g/g (Formaldehyde); TOD: 1.068 g/g (Formaldehyde)
Mobility	Distribution: log p(o/w): 0.00 (Formaldehyde).

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Bioaccumulative Potential	No bioaccumulation is to be expected (log P(o/w <1).
Biological Properties	Toxic for aquatic organisms. Protoplasmatic toxin. Caustic even in diluted form. Disinfectant effect. Toxic effect on fish and plankton. Sludge decomposition impaired or not possible even in diluted concentration. Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities.
Environmental Protection	Do not allow to enter waters, waste water, or soil!
Acute Toxicity - Fish	LC50 (P.promelas): 24 mg/l /96 h (Formaldehyde); LC50 (Br.rerio): 41 mg/l /96 h (Formaldehyde).
Acute Toxicity - Daphnia	Daphnia magna EC50: ~2 mg/l /48 h (Formaldehyde).
Acute Toxicity - Algae	Maximum permissible toxic concentration: Algeal toxicity: Sc.quadricauda IC5: 2.5 mg/l /8 d (Formaldehyde).
Acute Toxicity - Bacteria	Photobacterium phosphoreum EC50: 8.5 mg/l /30 min (Formaldehyde). Bacterial toxicity: M.aeruginosa EC5: 0.39 mg/l /8 d (Formaldehyde).

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	S6

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Chemical Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. ...End Of MSDS...