



The Power to Question

SAFETY DATA SHEET

Santa Cruz Biotechnology, Inc.

Revision date 30-Mar-2017

Version 1.9

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name FCM Fixation buffer (10X)
Product Code SC-3622
Pure substance/mixture mixture
Contains Formaldehyde

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

For research use only. Not intended for diagnostic or therapeutic use.

1.3. Details of the supplier of the safety data sheet

Santa Cruz Biotechnology, Inc. Santa Cruz Biotechnology, Inc.
10410 Finnell Street Bergheimer Str. 89-2
Dallas, TX 75220 69115 Heidelberg, Germany
831.457.3800 +49.6221.4503 0
800.457.3801 +1.800.457.3801
scbt@scbt.com europe@scbt.com

1.4. Emergency telephone number

Chemtrec
1.800.424.9300 (Within USA)
+1.703.527.3887 (Outside USA)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Vapors)	Category 3 - (H331)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Germ Cell Mutagenicity	Category 2 - (H341)
Carcinogenicity	Category 1B - (H350)
Specific target organ toxicity (single exposure)	Category 3
Chronic aquatic toxicity - (H225)	Category 3 - (H412)

2.2. Label Elements

Contains Formaldehyde
Signal word
Symbols/Pictograms

Danger





Hazard statements

H312 - Harmful in contact with skin
 H318 - Causes serious eye damage
 H341 - Suspected of causing genetic defects
 H315 - Causes skin irritation
 H331 - Toxic if inhaled
 H317 - May cause an allergic skin reaction
 H350 - May cause cancer
 H412 - Harmful to aquatic life with long lasting effects
 H302 - Harmful if swallowed
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness

Precautionary Statements - EU (§28, 1272/2008)

P270 - Do not eat, drink or smoke when using this product
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P330 - Rinse mouth
 P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water
 P322 - Specific measures (see Emergency Phone Number on this label)
 P311 - Call a POISON CENTER or doctor/physician
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISON CENTER or doctor/physician
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
 P321 - Specific treatment (see Emergency Phone Number on this label)
 P363 - Wash contaminated clothing before reuse
 P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P281 - Use personal protective equipment as required
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P271 - Use only outdoors or in a well-ventilated area
 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 if you feel unwell
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
 P405 - Store locked up
 P273 - Avoid release to the environment
 P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other Hazards

General Hazards

Not applicable



Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Weight No information available
Formula No information available

3.2 mixtures

Chemical Name	EC No	CAS No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Water	Present	7732-18-5	69.7	-
Formaldehyde	Present	50-00-0	20.2	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350)
PBS (1X)	-	-	10.1	-

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice Immediate medical attention is required. If symptoms persist, call a physician.

Inhalation Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If not breathing, give artificial respiration. Artificial respiration and/or oxygen may be necessary. Call a physician. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately. If symptoms persist, call a physician.

Ingestion Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Clean mouth with water and drink afterwards plenty of water. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

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

Symptoms No information available.

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

Note to physicians May cause sensitization of susceptible persons. Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical In the event of fire and/or explosion do not breathe fumes May cause sensitization by inhalation and skin contact Thermal decomposition can lead to release of irritating and toxic gases and vapors

Hazardous combustion products No information available.



5.3. Advice for firefighters

Special protective equipment for fire-fighters 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

Personal precautions Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
 For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
 Methods for cleaning up Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.
 General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	European Union	United Kingdom	France	Spain	Germany
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Formaldehyde 50-00-0		STEL: 2 ppm STEL: 2.5 mg/m ³ TWA: 2 ppm TWA: 2.5 mg/m ³	TWA: 0.5 ppm STEL: 1 ppm	STEL: 0.3 ppm STEL: 0.37 mg/m ³	TWA: 0.3 ppm TWA: 0.37 mg/m ³ Ceiling / Peak: 0.6 ppm Ceiling / Peak: 0.74 mg/m ³ Skin
Component	Italy	Portugal	Netherlands	Finland	Denmark
Formaldehyde 50-00-0 (20.2)		Ceiling: 0.3 ppm	STEL: 0.5 mg/m ³ TWA: 0.15 mg/m ³	TWA: 0.3 ppm TWA: 0.37 mg/m ³ STEL: 1 ppm STEL: 1.2 mg/m ³ Ceiling: 1 ppm Ceiling: 1.2 mg/m ³	Ceiling: 0.3 ppm Ceiling: 0.4 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Formaldehyde 50-00-0	Skin STEL 0.5 ppm STEL 0.6 mg/m ³ TWA: 0.5 ppm TWA: 0.6 mg/m ³ Ceiling 0.5 ppm Ceiling 0.6 mg/m ³	STEL: 0.6 ppm STEL: 0.74 mg/m ³ TWA: 0.3 ppm TWA: 0.37 mg/m ³	STEL: 1 mg/m ³ TWA: 0.5 mg/m ³	TWA: 0.5 ppm TWA: 0.6 mg/m ³ Ceiling: 1 ppm Ceiling: 1.2 mg/m ³ STEL: 0.5 ppm STEL: 0.6 mg/m ³	TWA: 2 ppm TWA: 2.5 mg/m ³ STEL: 2 ppm STEL: 2.5 mg/m ³

Derived No Effect Level (DNEL) No information available
 Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems

Eye/face protection Tight sealing safety goggles. Face protection shield.

Skin and Body Protection Gloves made of plastic or rubber. Suitable protective clothing. Suitable protective clothing.
 Apron.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State liquid
 Appearance No information available
 Odor No information available

Property	Values
pH	No information available
Melting point/freezing point	No information available
Boiling point	No information available
Flash point	No information available
Density	No information available
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available



Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity Not applicable

10.2. Chemical stability

Stability Stable under recommended storage conditions.
Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerization No information available.
Possibility of Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.
Unknown acute toxicity 10.1000191% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 445.00 mg/kg
ATEmix (dermal) 1,202.00 mg/kg mg/l
ATEmix (inhalation-dust/mist) 2.23 mg/l
ATEmix (inhalation-vapor) 2.57 mg/l

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		
Formaldehyde	= 100 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h

Chemical Name	ACGIH	IARC	NTP	OSHA
Formaldehyde 50-00-0	A2	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists) A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program) Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor) X - Present

Target Organ Effects Eyes, Respiratory system, Skin.

Chemical Name	European Union
Formaldehyde	Carc. 1B



Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity May cause long lasting harmful effects to aquatic life.
 Unknown aquatic toxicity 10.1% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Formaldehyde		22.6 - 25.7: 96 h Pimephales promelas mg/L LC50 flow-through 1510: 96 h Lepomis macrochirus µg/L LC50 static 23.2 - 29.7: 96 h Pimephales promelas mg/L LC50 static 0.032 - 0.226: 96 h Oncorhynchus mykiss mL/L LC50 flow-through 100 - 136: 96 h Oncorhynchus mykiss mg/L LC50 static 41: 96 h Brachydanio rerio mg/L LC50 static	11.3 - 18: 48 h Daphnia magna mg/L EC50 Static 2: 48 h Daphnia magna mg/L LC50

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation No information available.

Chemical Name	Partition coefficient
Formaldehyde	0.35

12.4. Mobility in soil

Mobility No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.
 Contaminated packaging Do not reuse container.
 Other Information Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORT INFORMATION

	<u>RID / ADR</u>	<u>IMDG</u>	<u>ICAO (air) / IATA</u>
14.1 UN/ID no	UN3334	UN3334	UN3334
14.2 Proper shipping name	Aviation regulated liquid, n.o.s.	Aviation regulated liquid, n.o.s.	Aviation regulated liquid, n.o.s.
14.3 Hazard Class	9	9	9
Subsidiary hazard class / Labels	-	-	-



14.4 Packing Group	-	-	III
14.5 Environmental Hazard	-	-	-
14.6 Special Provisions	-	960	A27

Classification code M11

Section 15: REGULATORY INFORMATION

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

National Regulations

Chemical Name	French RG number	Title
Formaldehyde 50-00-0	RG 43	

European Union

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

International Inventories

All of the components in the product are on the following Inventory lists

No information available

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Water	X	X	-	X	-	-	X	X	X	X
Formaldehyde	X	X	-	X	-	X	X	X	X	X

X - Listed

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

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

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

H301 - Toxic if swallowed
 H311 - Toxic in contact with skin
 H331 - Toxic if inhaled
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H341 - Suspected of causing genetic defects if inhaled
 H350 - May cause cancer if swallowed
 No information available.

Revision note

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Material 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