

KIT MATERIAL SAFETY DATA SHEET

PRODUCT AND COMPANY INFORMATION

◆ **Product name: ROS Detection Assay Kit**



◆ **Catalog number:** ROS0300

◆ **Chemical name or synonyms:**

◆ **Contact:**

OZ Biosciences
Parc Scientifique de Luminy – Zone Luminy Entreprises
163 Avenue de Luminy – Case 922
13288 Marseille cedex 9, France
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KIT CONTENT AND CLASSIFICATION

Common Name

- ◆ 25mM DFC-DA in DMF
- ◆ tert-Butyl Hydrogen Peroxide (TBHP) 25 mM
- ◆ 10X ROS Buffer

Classification

/
/
/

MSDS: DCF-DA SOLUTION

SECTION 1 - PRODUCT AND COMPANY INFORMATION

- ◆ **Product name:** 25mM DCF-DA solution in DMF
- ◆ **Contact:**

OZ Biosciences
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SECTION 2 – HAZARDS IDENTIFICATION

Classification of the substance or mixture:



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS08 Health hazard

Repr. 1B H360 May damage fertility or the unborn child.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

Label elements

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS02



GHS07



GHS08

· Signal word

DANGER

· Hazard-determining components of labeling:

N,N-dimethylformamide

· Hazard statements

Flammable liquid and vapor. Causes serious eye irritation. May damage fertility or the unborn child.

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Wear protective gloves / eye protection / face protection. Ground/bond container and receiving equipment. Keep container tightly closed. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store locked up. Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards

· Results of PBT and vPvB assessment

PBT: Not applicable. · vPvB: Not applicable.

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

Description: 25mM solution of 2',7'-Dichlorofluorescein diacetate in DMF

Ingredient name	CAS number	EINECS
2',7'-Dichlorofluorescein diacetate	4091-99-0	-
N,N-dimethylformamide	68-12-2	200-679-5

N,N-Dimethylformamide: ORAL (LD50): Acute: 2800 mg/kg [Rat]. 2900 mg/kg [Mouse]. 5000 mg/kg [Rabbit]. DERMAL (LD50): Acute: 4720 mg/kg [Rabbit].

SECTION 4 – FIRST AID MEASURES

◆ **Effects and symptoms:**

- *Inhalation* May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, difficult breathing and chest pain.
- *Ingestion* May be harmful if swallowed. Symptoms may include nausea, vomiting and diarrhea.
- *Skin contact* May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.
- *Eye contact* May cause irritation, redness and pain.
- *Aggravating conditions* Repeated or prolonged exposure is not known to aggravate medical conditions.

◆ **First-Aid measures:**

- *Inhalation* If inhaled, remove to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately.
- *Ingestion* Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- *Skin contact* In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothes before reuse. Get medical attention immediately.
- *Eye contact* In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
- *Notes to physician* Not available.
- *Protection of first-aiders* Not available.

SECTION 5 – FIRE FIGHTING MEASURES

- ◆ **Flammability of the product:** May be combustible at high temperature.
- ◆ **Flash Point:** Not available.
- ◆ **Fire hazards in presence of various substances:** Not considered to be flammable.
- ◆ **Fire fighting media and instructions:** Use dry chemical, CO₂, water spray or foam.
- ◆ **Protective clothing (fire):** Be sure to use an approved/certified respirator or equivalent.
- ◆ **Hazardous thermal decomposition products:** Burning produces irritant fumes (nitrogen oxides, carbon oxides, halogens).

SECTION 6 – ACCIDENTAL RELEASE MEASURES

• **Personal precautions, protective equipment and emergency procedures**

Not required.

• **Environmental precautions:**

Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.

• **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

• **Reference to other sections**

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment.

SECTION 7 – HANDLING AND STORAGE

- ◆ **Handling:** Avoid breathing vapors or spray mists. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.
- ◆ **Storage:** Keep container tightly closed. Store at – 20°C. Protect from light.
- ◆ **Intended use:** Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific application.

◆ **Packaging materials**

Suitable: Use original container.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

Components with limit values that require monitoring at the workplace:

	CAS: 68-12-2 N,N-dimethylformamide
PEL Long-term value:	30 mg/m ³ , 10 ppm Skin
REL Long-term value:	30 mg/m ³ , 10 ppm Skin
TLV Long-term value:	30 mg/m ³ , 10 ppm Skin; BEI

•Ingredients with biological limit values:

	CAS: 68-12-2 N,N-dimethylformamide
BEI	15 mg/L
Medium:	urine
Time:	end of shift
Parameter:	N-Methylformamide
	40 mg/L
Medium:	urine
Time:	prior to last shift of workweek

Parameter: N-Acetyl-S-(N-methylcarbamoyl) cysteine (semi-quantitative)
 • Additional information: The lists that were valid during the creation were used as basis. (Contd. on page 5)US

• Exposure controls

• Personal protective equipment:

• General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Store protective clothing separately. Avoid contact with the eyes. Avoid contact with the eyes and skin. •

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

• Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. •

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. •

Eye protection:

Tightly sealed goggles

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

◆ **Appearance**

- **Physical State:** Liquid.
- **Color:** Colorless.
- **Odor:** Not available.
- **Taste:** Not available.

- ◆ **Molecular weight:** Not available.
- ◆ **Molecular formula:** Not available
- ◆ **pH:** Not available
- ◆ **Melting point:** Not available.
- ◆ **Decomposition temperature:** Not available
- ◆ **Flash point:** Not available.
- ◆ **Solubility:** Soluble in water.

SECTION 10 – STABILITY AND REACTIVITY

- ◆ **Stability and reactivity:** The product is stable under recommended storage conditions.
- ◆ **Conditions to avoid:** Exposure to light and moisture over prolonged periods, heat, flames, ignition sources.
- ◆ **Materials to avoid:** Strong acids, strong bases, strong oxidizing agents.
- ◆ **Hazardous polymerization:** Will not occur.
- ◆ **Hazardous decomposition products:** Carbon oxides, Nitrogen oxides (NO_x), halogens.
- ◆ **Remarks on reactivity:** N,N-dimethylformamide can react vigorously with oxidizing agents, halogenated hydrocarbons, and inorganic nitrates. Incompatible with carbon tetrachloride, alkyl aluminums, sodium tetrahydroborate, nitrates, chromic acid, diisocyanatomethane, triethylaluminum, sodium hydride, lithium azide, metallic sodium, bromine, magnesium nitrate, potassium permanganate, nitric acid, chromium trioxide, borohydrides, phosphorus trioxide, diborane, octafluoroisobutyrate, sodium nitrite, perchloryl fluoride, potassium methyl 4,4'-dinitrobutyrate. Reaction with inorganic acid chlorides, such as phosphorous oxychloride and thionyl chloride, may form dimethylcarbamoyl, a suspect carcinogen. May release dimethylamine and carbon monoxide if heated above 350 C (662F).

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

CAS: 68-12-2 N,N-dimethylformamide

Oral LD50 2800 mg/kg (rat)

Dermal LD50 4720 mg/kg (rabbit)

Inhalative LC50/4 h 9400 mg/l (mouse)

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

CAS: 68-12-2 N,N-dimethylformamide 3

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment • PBT: Not applicable. • vPvB: Not applicable.

SECTION 13 – DISPOSAL CONSIDERATIONS

- ◆ **Waste stream:** Not available.
- ◆ **Waste disposal method:** Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance with governmental environmental regulations. Observe all federal, state, and local environmental regulations.
- ◆ **European waste catalogue (EWC):** Not available.
- ◆ **Hazardous waste:** Will not occur.

SECTION 14 – TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA

UN2265

UN proper shipping name

DOT

N,N-Dimethylformamide mixture

IMDG, IATA	N,N-DIMETHYLFORMAMIDE mixture
Transport hazard class(es)	
DOT	
Class	3 Flammable liquids
Label	3
IMDG, IATA	
Class	3 Flammable liquids
Label	3
Packing group	
DOT, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Danger code (Kemler):	30
EMS Number:	F-E,S-D
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Transport/Additional information:	Not applicable.
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
IMDG	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1
Maximum net quantity per inner packaging:	30 ml
Maximum net quantity per outer packaging:	1000 ml
UN "Model Regulation":	UN 2265 N,N-DIMETHYLFORMAMIDE MIXTURE, 3, III

SECTION 15 – REGULATORY INFORMATION

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

Sara

Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

CAS: 68-12-2 N,N-dimethylformamide

TSCA (Toxic Substances Control Act):

CAS: 68-12-2 N,N-dimethylformamide

Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

CAS: 68-12-2 N,N-dimethylformamide

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Label elements

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS02



GHS07



GHS08

• Signal word

DANGER

• Hazard-determining components of labeling:

N,N-dimethylformamide

• Hazard statements

Flammable liquid and vapor. Causes serious eye irritation. May damage fertility or the unborn child. ·

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Wear protective gloves / eye protection / face protection. Ground/bond container and receiving equipment. Keep container tightly closed. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Store locked up. Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• Other hazards

· Results of PBT and vPvB assessment ·

PBT: Not applicable. · vPvB: Not applicable.

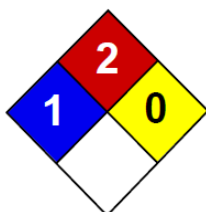
·

SECTION 16 – OTHER INFORMATION

◆ **Hazardous Material Information System (U.S.A.):**

Health	2
Fire hazard	2
Reactivity	0
Personal protection	E

◆ **National Fire Protection Association (U.S.A.):**



0 = not significant

1 = slight

2 = moderate

3 = high

4 = extreme

* = chronic

◆ **Revisions:**

Issue Date: 12/11/2017

Last Revision Date: 20/02/2018

Revision note: New format. updated Section 2,8,15,16.

◆ **Other Comments:**

To the best of our knowledge, the information contain herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability 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.

Restriction of use: for research use only.

TBHP SOLUTION**SECTION 1 - PRODUCT AND COMPANY INFORMATION**

◆ **Product name:** TBHP Solution (25 mM)

◆ **Contact:**

OZ Biosciences
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163 Avenue de Luminy – Case 922
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SECTION 3 – HAZARDS IDENTIFICATION

◆ **GHS Classification**

No

◆ **GHS Label element**

Signal Word:	None
Hazard Statements:	None
Pictograms:	None

◆ This product contains hazardous ingredients (Yes; No; Not Applicable or no information): **No**

◆ This product contains hazardous carcinogens (Yes; No; N/A): **No**

◆ This product contains hazardous ingredients to the environment. (Yes; No; N/A): **No**

◆ **Effects and symptoms:**

- | | |
|-----------------------|--|
| ○ <i>Inhalation</i> | No toxicity expected from inhalation. |
| ○ <i>Ingestion</i> | Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort. |
| ○ <i>Skin contact</i> | Can cause skin irritation. |
| ○ <i>Eye contact</i> | May cause irritation of the eye. |

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

<u>Ingredient name</u>	<u>CAS number</u>	<u>EINECS</u>
Tert-butyl hydroperoxide	75-91-2	200-915-7

Total content in TBHP is less than 0.5% w/w

SECTION 4 – FIRST AID MEASURES

◆ **First-Aid measures:**

- | | |
|-------------------------------------|--|
| ○ <i>Inhalation</i> | If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| ○ <i>Ingestion</i> | Give plenty of water, if conscious. If vomiting occurs naturally, wash mouth out. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms develop. |
| ○ <i>Skin contact</i> | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothes before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms develop (redness, itching...). |
| ○ <i>Eye contact</i> | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes retracting eyelids often. Get medical attention if symptoms develop (redness, itching...). |
| ○ <i>Notes to physician</i> | Treat symptomatically. |
| ○ <i>Protection of first-aiders</i> | Not available. |

SECTION 5 – FIRE FIGHTING MEASURES

- | | |
|--|---|
| ◆ Flash Point: | Not available. |
| ◆ Flammability of the product: | Product itself is not combustible. |
| ◆ Fire hazards in presence of various substances: | Emits toxic fumes under fire conditions. |
| ◆ Fire fighting media and instructions: | Use an extinguish agent suitable (water spray, carbon dioxide, dry chemical powder, or appropriate foam) for surrounding fires. |

- ◆ **Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.
- ◆ **Hazardous thermal decomposition products:** Includes carbon dioxide, carbon monoxide, dense smoke.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- ◆ **Personal precautions:** Safety glasses, lab coat and gloves.
- ◆ **Environmental precautions and clean-up methods:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.
- ◆ **Small spill and leak:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

SECTION 7 – HANDLING AND STORAGE

- ◆ **Handling:** Avoid contacting and avoid breathing the material. Use only in a well ventilated area.
- ◆ **Storage:** Store at +4°C. Keep container tightly closed in a dry and well-ventilated place
- ◆ **Intended use:** Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific application.
- ◆ **Packaging materials**
- ◆ **Suitable:** Use original container.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

- ◆ **Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
- ◆ **Personal protection**
 - Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
 - Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
 - Body Protection**
impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
 - Respiratory protection**
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
 - Control of environmental exposure**
Do not let product enter drains

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- ◆ **Appearance**
 - **Physical State:** Liquid.
 - **Color:** Clear, colorless.
 - **Odor:** Odorless.
 - **Taste:** Not available.
- ◆ **Molecular weight:** Not available.
- ◆ **pH:** 6.0
- ◆ **Boiling point:** Not available
- ◆ **Melting point:** Not available
- ◆ **Flash point:** Not available.
- ◆ **Decomposition temperature:** Not available.
- ◆ **Density:** 1.07
- ◆ **Solubility:** fully miscible in water.

SECTION 10 – STABILITY AND REACTIVITY

- ◆ **Stability and reactivity:** Stable under normal conditions of use and storage.
- ◆ **Conditions to avoid:** N/A.
- ◆ **Hazardous polymerization:** Will not occur.
- ◆ **Hazardous decomposition products:** Not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

◆ **Toxicity on animals:**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TBHP	370 mg/kg (Rat)	790 mg/kg (Rat)	1.85 mg/L (Rat) 4 h 500 ppm (Rat) 4 h

- ◆ **Chronic effects on humans:** Carcinogenic effects: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ◆ **Other toxic effects on humans:** Slightly hazardous in case of ingestion, of eye contact.

SECTION 12 – ECOLOGICAL INFORMATION

◆ **Ecotoxicological information:** Not available.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
TBHP	2.1: 72 h Pseudokirchneriella subcapitata mg/L EC50	42.3: 96 h Pimephales promelas mg/L LC50 semi-static 57: 96 h Brachydanio rerio mg/L LC50 static		20: 48 h Daphnia magna mg/L EC50

- ◆ **Environment fate:** Bioconcentration is not expected to occur.

SECTION 13 – DISPOSAL CONSIDERATIONS

- ◆ **Waste stream:** Not available.
- ◆ **Waste disposal method:** Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance with governmental environmental regulations. Observe all federal, state, and local environmental regulations.
- ◆ **European waste catalogue (EWC):** Not available.
- ◆ **Hazardous waste:** Will not occur.

SECTION 14 – TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

D.O.T.: Not regulated.

IATA.: Not regulated.

IMDG: Not regulated

SECTION 15 – REGULATORY INFORMATION

◆ **US Federal Regulations**

RCRA (Lists of Hazardous Wastes, 40 CFR 261 Subpart D): Not applicable

CLEAN AIR ACT (SEC. 112. Hazardous Air Pollutants): Not applicable

CLEAN WATER ACT (RQ, 40 CFR):

Not applicable

SARA Title III:

Section 302 -304, 40 CFR 355: Components present in this product at a level which could require reporting are: none.

Section 311 - 312: Components present in this product at a level which could require reporting are: none.

Section 313: Not applicable

TSCA Section 8(b) Inventory Status: All ingredients are listed on TSCA Inventory of Chemical Substances or exempt from TSCA Inventory requirements.

AICS Inventory Status: All ingredients are listed on the Australia Inventory of Chemical Substances.

State Lists

This product does not contain any Proposition 65 chemicals.

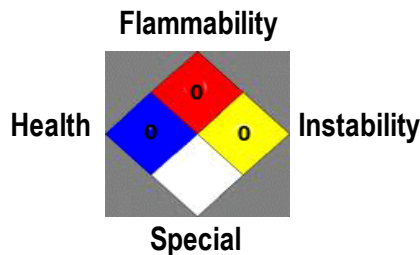
- ◆ This product is not classified according to the EU regulations.

SECTION 16— OTHER INFORMATION

- ◆ **Hazardous Material Information System (U.S.A.):**

Health	0
Fire hazard	0
Reactivity	0
Personal protection	

- ◆ **National Fire Protection Association (U.S.A.):**



0 = not significant
1 = slight
2 = moderate

3 = high
4 = extreme
* = chronic

- ◆ **Revisions:**

Issue Date: 12/11/2017

Last Revision Date: 20/02/2018

Revision note: New format. updated Section 2,8,15,16

- ◆ **Other Comments:**

To the best of our knowledge, the information contain herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability 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.

Restriction of use: for research use only.

MSDS: 10X ROS BUFFER

SECTION 1 - PRODUCT AND COMPANY INFORMATION

◆ **Product name:** 10X ROS Buffer

◆ **Contact:**

OZ Biosciences
Parc Scientifique de Luminy – Zone Luminy Entreprises
163 Avenue de Luminy – Case 922
13288 Marseille cedex 9, France
Phone: +33 (0)4.86.94.85.16 / Fax: +33 (0)4.86.94.85.15
www.ozbiosciences.com / contact@ozbiosciences.com

SECTION 3 – HAZARDS IDENTIFICATION

◆ **GHS Classification**

No

◆ **GHS Label element**

Signal Word: None
Hazard Statements: None
Pictograms: None

◆ This product contains hazardous ingredients (Yes; No; Not Applicable or no information): **No**

◆ This product contains hazardous carcinogens (Yes; No; N/A): **No**

◆ This product contains hazardous ingredients to the environment. (Yes; No; N/A): **No**

◆ **Effects and symptoms:**

- *Inhalation* No toxicity expected from inhalation.
- *Ingestion* Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.
- *Skin contact* Can cause skin irritation.
- *Eye contact* May cause irritation of the eye.

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

Description: 10 X ROS Buffer

Ingredient name	CAS number	%	EINECS	Classification
Water	7732-18-5	> 97 %	231-791-2	None
HEPES Free Acid	7365-45-9	0.5 %	230-907-9	None
Glucose	50-99-7	0.5 – 1 %	200-075-1	None
Sodium Chloride	7647-14-5	0.5 – 1 %	231-598-3	None
Potassium Chloride	7447-40-7	0.01 – 0.05 %	231-211-8	None
Di-Sodium Hydrogen Phosphate Dihydrate	10028-24-7	0.01 %	231-448-7	None

Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

Other hazards - none

SECTION 4 – FIRST AID MEASURES

◆ **First-Aid measures:**

- *Inhalation* If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
- *Ingestion* Give plenty of water, if conscious. If vomiting occurs naturally, wash mouth out. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms develop.
- *Skin contact* In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothes before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms develop (redness, itching...).

- *Eye contact* In case of contact, immediately flush eyes with plenty of water for at least 15 minutes retracting eyelids often. Get medical attention if symptoms develop (redness, itching...).
- *Notes to physician* Treat symptomatically.
- *Protection of first-aiders* Not available.

SECTION 5 – FIRE FIGHTING MEASURES

- ◆ **Flash Point:** Not available.
- ◆ **Flammability of the product:** Product itself is not combustible.
- ◆ **Fire hazards in presence of various substances:** Emits toxic fumes under fire conditions.
- ◆ **Fire fighting media and instructions:** Use an extinguish agent suitable (water spray, carbon dioxide, dry chemical powder, or appropriate foam) for surrounding fires.
- ◆ **Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.
- ◆ **Hazardous thermal decomposition products:** Includes carbon dioxide, carbon monoxide, dense smoke.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- ◆ **Personal precautions:** Safety glasses, lab coat and gloves.
- ◆ **Environmental precautions and clean-up methods:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.
- ◆ **Small spill and leak:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

SECTION 7 – HANDLING AND STORAGE

- ◆ **Handling:** Avoid contacting and avoid breathing the material. Use only in a well ventilated area.
- ◆ **Storage:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place
- ◆ **Intended use:** Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific application.
- ◆ **Packaging materials**
- ◆ **Suitable:** Use original container.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

- ◆ **Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
- ◆ **Personal protection**
 - Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
 - Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
 - Body Protection**
impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
 - Respiratory protection**
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
 - Control of environmental exposure**
Do not let product enter drains

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- ◆ **Appearance**
 - **Physical State:** Liquid.
 - **Color:** Clear, colorless.
 - **Odor:** Odorless.

- **Taste:** Not available.
- ◆ **Molecular weight:** Not available.
- ◆ **pH:** 6.0
- ◆ **Boiling point:** Not available
- ◆ **Melting point:** Not available
- ◆ **Flash point:** Not available.
- ◆ **Decomposition temperature:** Not available.
- ◆ **Density:** 1.07
- ◆ **Solubility:** fully miscible in water.

SECTION 10 – STABILITY AND REACTIVITY

- ◆ **Stability and reactivity:** Stable under normal conditions of use and storage.
- ◆ **Conditions to avoid:** Strong oxidizing agents.
- ◆ **Hazardous polymerization:** Will not occur.
- ◆ **Hazardous decomposition products:** Not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

- ◆ **Toxicity on animals:**
 - **LD50:** Not available.
 - **LC50:** Not available.
- ◆ **Chronic effects on humans:** Carcinogenic effects: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ◆ **Other toxic effects on humans:** Slightly hazardous in case of ingestion, of eye contact.

SECTION 12 – ECOLOGICAL INFORMATION

- ◆ **Ecotoxicological information:** Not available.
- ◆ **Environment fate:** Bioconcentration is not expected to occur.

SECTION 13 – DISPOSAL CONSIDERATIONS

- ◆ **Waste stream:** Not available.
- ◆ **Waste disposal method:** Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance with governmental environmental regulations. Observe all federal, state, and local environmental regulations.
- ◆ **European waste catalogue (EWC):** Not available.
- ◆ **Hazardous waste:** Will not occur.

SECTION 14 – TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

D.O.T.: Not regulated.

IATA.: Not regulated.

IMDG: Not regulated

SECTION 15 – REGULATORY INFORMATION

◆ US Federal Regulations

RCRA (Lists of Hazardous Wastes, 40 CFR 261 Subpart D): Not applicable

CLEAN AIR ACT (SEC. 112. Hazardous Air Pollutants): Not applicable

CLEAN WATER ACT (RQ, 40 CFR):

Not applicable

SARA Title III:

Section 302 -304, 40 CFR 355: Components present in this product at a level which could require reporting are: none.
 Section 311 - 312: Components present in this product at a level which could require reporting are: none.
 Section 313: Not applicable

TSCA Section 8(b) Inventory Status: All ingredients are listed on TSCA Inventory of Chemical Substances or exempt from TSCA Inventory requirements.

AICS Inventory Status: All ingredients are listed on the Australia Inventory of Chemical Substances.

State Lists

This product does not contain any Proposition 65 chemicals.

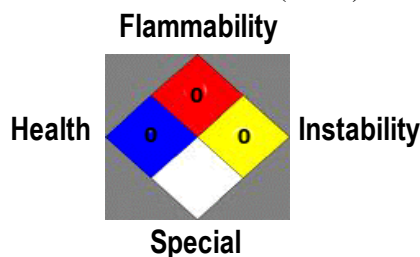
- ◆ This product is not classified according to the EU regulations.

SECTION 16– OTHER INFORMATION

- ◆ **Hazardous Material Information System (U.S.A.):**

Health	0
Fire hazard	0
Reactivity	0
Personal protection	

- ◆ **National Fire Protection Association (U.S.A.):**



0 = not significant
 1 = slight
 2 = moderate
 3 = high
 4 = extreme
 * = chronic

- ◆ **Revisions:**

Issue Date: 12/11/2017
 Last Revision Date: 20/02/2018
 Revision note: New format. updated Section 2,8,15,16

- ◆ **Other Comments:**

To the best of our knowledge, the information contain herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
 Final determination of suitability 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.

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