

## 1

### IDENTIFICATION OF PRODUCT AND SOCIETY

#### 1.1

#### IDENTIFICATION OF PRODUCT

##### GAF® FIXATIVE / GAF® IF FIXATIVE

Packaging: 10ml/25ml/90ml/125ml/250ml/1000ml/3l/5l/10l

REF	Type	name	description	Reg. progressive n°	CND
<b>GAF000010P40</b>	PREFILLED	GAF® fixative 10 ml	PP container with screw cap pre-filled with 10ml GAF on a total volume of <b>20ml</b>	2565131/R	W01030705
<b>GAF000025P40</b>	PREFILLED	GAF® fixative 25 ml	PP container with screw cap pre-filled with 25ml GAF on a total volume of <b>60ml</b>	2565144/R	W01030705
<b>GAF000090P12</b>	PREFILLED	GAF® fixative 90 ml	PP container with screw cap pre-filled with 90ml GAF on a total volume of <b>160ml</b>	2565215/R	W01030705
<b>GAF000090P24</b>	PREFILLED	GAF® fixative 90 ml	PP container with screw cap pre-filled with 90ml GAF on a total volume of <b>160ml</b>	2565217/R	W01030705
<b>GAF000125P24</b>	PREFILLED	GAF® fixative 125 ml	PP container with screw cap pre-filled with 125ml GAF on a total volume of <b>250ml</b>	2565224/R	W01030705
<b>GAF000250P12</b>	PREFILLED	GAF® fixative 250 ml	PP container with screw cap pre-filled with 250ml GAF on a total volume of <b>500ml</b>	2565226/R	W01030705
<b>GAF000250B8</b>	BULK	GAF® fixative 250 ml	250ml bottle - PET	2565228/R	W01030705
<b>GAF001000B1</b>	BULK	GAF® fixative 1000 ml	1 litre bottle -PET	2565230/R	W01030705
<b>GAF003000B1</b>	BULK	GAF® fixative 3 l	3 litre jerry can - HDPE	2565231/R	W01030705
<b>GAF005000B1</b>	BULK	GAF® fixative 5 l	5 litre jerry can - HDPE	2565234/R	W01030705
<b>GAF010000B1</b>	BULK	GAF® fixative 10 l	10 litre jerry can - HDPE	2565236/R	W01030705

UFI: 4XR2-M05T-A006-T07J

#### 1.2

#### USE OF THE PRODUCT

HISTOLOGICAL/CYTOLOGICAL FIXATIVE

#### 1.3

#### IDENTIFICATION OF THE SOCIETY

##### ADDAX Biosciences s.r.l

Str. Mongreno 247

Torino-Italy

info@addaxbio.com

T: +39 011 899 4435

#### 1.4

#### TELEPHONE NUMBER FOR URGENT CALL

Emergency telephone number 112 (EU)  
Chemtrec Emergency Response Services US: (800) 424-9300  
Chemtrec Emergency Response Services EU: 001 (202) 483-7616

## 2

## HAZARD IDENTIFICATION

The product is considered as dangerous according to the Regulation (CE) 1272/2008 (CLP) (and ensuing modifications and integrations).  
Additional information related to dangers for the health and/or the environment follows in items 11 and 12 of the present Data Sheet

### 2.1 HAZARD STATEMENTS ACCORDING TO REGULATION 1272/2008/UE

Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Skin sensitization (Category 1), H317  
Acute toxicity, Inhalation (Category 4), H332  
Germ cell mutagenicity (Category 2), H341

### 2.2 LABEL ELEMENTS LABELLING ACCORDING TO REGULATION (EC) NO 1272/2008

Pictograms:



GHS08

GHS07

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Signal Word Warning

#### Hazard statement(s)

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H341 Suspected of causing genetic defects.

#### Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray

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

P302 + P352 IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Contains glyoxal. May cause an allergic skin reaction.

## Reduced Labeling (<= 125 ml)

Pictogram



UFI: 4XR2-M05T-A006-T07J

### Hazard statement(s)

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H341 Suspected of causing genetic defects.

Contains glyoxal. May cause an allergic skin reaction.

## 3

### COMPOSITION/ INFORMATION ON INGREDIENTS

<b>GLYOXAL</b>			
	CAS. 107-22-2 CE. 203-474-9 INDEX. 605-016-00-7	1 - 6 %	Muta. 2 H341, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317
<b>ETHANOL</b>			
	CAS. 64-17-5 CE. 200-578-6	3 – 6 %	Flam. Liq. 2 H225.

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	INDEX. 603-002-00-5		
<b>NAH2PO4</b>			
	CAS. 10049-21-5 CE. 231-449-2	<5%	
<b>NA2HPO4</b>			
	CAS. 7558-79-4 CE. 231-448-7	<5%	
<b>PHENOL RED</b>			
	CAS. 143-74-8 CE. 205-609-7	< 0.002%	
<b>PROPYLENE GLYCOL</b>			
	CAS. 57-55-6 CE. 200-338-0	1-6%	
<b>WATER</b>	N. CAS 7732-18-5	70 - 80%	

## 4

### FIRST AID MEASURES

#### General Advice

#### Inhalation

- Show this material safety data sheet to the doctor in attendance.

#### Ingestion

- Move to fresh air. call in physician.
- Seek medical advice immediately. Induce vomiting only as directed by a doctor. Do not administer anything by mouth if the subject is unconscious and unless authorised by a doctor.

#### Skin Contact

- Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, consult a doctor. Wash contaminated clothing before re-use.

#### Eye Contact

- Remove any contact lenses. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids wide. Consult a doctor if the problem persists.

#### Notes to physician

- No data available

## 5

### FIRE-FIGHTING MEASURES

#### Suitable Extinguishing Media

Use carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, dry chemical.

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For leaks and spills that have not caught fire, water spray can be used to disperse flammable vapors and protect persons engaged in stopping the leak.

## Unsuitable Extinguishing Media

Do not use water as it is not efficient to extinguish fire. Water can be used to cool down the closed containers to prevent explosion.

## Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors. Risk of ignition.

## Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>) Thermal decomposition can lead to release of irritating gases and vapors.

## Advice for firefighters

Cool containers with water jets to prevent decomposition of the product and development of substances potentially hazardous to health.

Wear full fire protection equipment.

Collect extinguishing water, which must not be discharged into drains.

Dispose of contaminated fire extinguishing water and fire residue in accordance with local regulations.

## Protective Equipment and Precautions for Firefighters

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

## Further information

In the event of fire, overpressure can be created in fire-exposed containers with danger of explosion.

Avoid breathing in the products of combustion.

## 6

## MEASURES FOR ACCIDENTAL RELEASE

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### Personal Precautions

- Stop the leak if there is no danger.
- Wear appropriate protective equipment (including personal protective equipment as per point 8) to prevent contamination of skin, eyes and personal clothing.
- These instructions apply to both workers and emergency responders.

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## Environmental Precautions

- Do not allow product to enter drains, surface water or ground water.
- Do not release into the environment.

## Methods for Containment and up Clean.

- Ensure sufficient ventilation of the place affected by the leak.
- Vacuum leaked product into a suitable container.
- Absorb the product with inert absorbent material.
- Dispose of contaminated material in accordance with point 13.

## 7

### HANDLING AND STORAGE

#### Handling

- Ensure sufficient ventilation of the handling area.
- Wear suitable skin and eyes protective equipment.
- Keep away from heat, sparks and open flame, do not smoke or use matches or lighters.
- Do not eat, drink or smoke when using.
- Avoid dispersal of the product in the environment.

#### Storage

- Store at 2-8°C in a dry, ventilated place.
- Protect from sunlight.
- Protect from moisture.
- Keep away from ignition sources (heat, open flames, sparks).
- Keep away from food and drink.

#### Specific use

- No uses are envisaged other than that indicated in 1.2.

## 8

### EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1

#### LIMIT VALUES OF EXPOSURE

Limit values to pure substances:

	ACGIH TLV	OSHA PEL	NIOSH IDLH
<b>GLYOXAL</b>	TWA: 0.1 mg/m <sup>3</sup>	-	-
<b>ETHANOL</b>	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm  TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>

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	WEEL (U.S.A.)	DNEL	
<b>PROPYLENE GLYCOL</b>	long-term value: 10 mg/m <sup>3</sup>	DNEL (workers-local chronic effects) 10 mg/m <sup>3</sup>  DNEL (workers-systemic chronic effects) 168 mg/m <sup>3</sup>	

## 8.2

### CONTROL OF EXPOSURE

#### Professional

- Eye protection: protective goggles or face shield.
- Skin protection: wear suitable work clothes for body protection and work shoes.
- Hand protection: handle with gloves. Gloves should be checked before use. Use proper glove removal technique (without touching the outer surface of the glove) to avoid skin contact with this product. The selected protective gloves must meet the requirements of Directive (EU) 2016/425 and the resulting EN 374 standards.

- Full contact and spray:
- Material: Nitrile rubber.
- Minimum thickness: 0.11 mm.
- Permeation time: 480 min.
- Tested material: Dermatril®.
- Under normal conditions of use and temperature (+5 / +25°C) GAF® is non-volatile and therefore does not require respiratory protection. Outside the normal conditions of use mentioned under 1.2, if vapours/aerosols are generated (e.g. when heating), respiratory protection is required in accordance with the filter recommendations of DIN EN 143, DIN 14387.

#### Environmental

- Avoid dispersion in the environment.
- Avoid contamination of water, soil and subsoil.

#### Additional information

- Observe normal safety precautions when handling laboratory chemicals to avoid eye contact, inhalation and ingestion.

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## General information

- Appearance at room temperature: liquid
- Color: pink
- Smell: odorless

## Information on basic physical and chemical properties:

- pH: 7.1 - 8.0
- Boiling point: 100°C
- Flash point: 92°C
- Flammability: not flammable
- Explosive properties: not explosive
- Oxidizing properties: non-oxidizing
- Vapor pressure: -
- Density: 0.95 - 1.05 g/cm<sup>3</sup>
- Solubility: soluble in water and in alcohol
- Water solubility: soluble
- n-octanol/water partition coefficient: N/A
- Viscosity: -
- Vapor density: -
- Evaporation speed: -

## 10

### STABILITY AND REACTIVITY

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#### Conditions to avoid:

- The product is stable under normal conditions of use and storage.
- Avoid all sources of ignition (heat, sparks, open flames).
- Avoid exposure to excessive heat.

#### Incompatible materials

- Strong oxidizing agents

#### Hazardous Decomposition Products

- Material that tends to oxidize in air.
- Gases and vapors potentially harmful to health may be released by thermal decomposition or in the event of fire.

## 11

### TOXICOLOGICAL INFORMATION

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#### Acute effects:

- Contact with eyes produces irritation, pain and lacrimation.
- Contact with skin can produce moderate irritation. May cause sensitization by skin contact
- Ingestion can cause abdominal distress. Symptoms of overexposure



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may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, light-headedness, chest pain, muscle pain or flushing.

- GLYOXAL: LD50 (oral): 7070 mg/kg rat – LD50 (skin): 10000 mg/kg rabbit
- ETHANOL: LD50 (oral): >5000 mg/kg rat – Lc50 (inhalation): 120 mg/4h pimephales promelas
- PROPYLENE GLYCOL: LD50 (oral) > 20000 mg/kg (mouse)

## Carcinogenicity

Component	CAS-No	IARC
Water	7732-18-5	Not listed
Ethyl alcohol	64-17-5	Group 1
Glyoxal	107-22-2	Not listed

**Mutagenic Effects** Suspect Mutagenic effects in humans.

**Reproductive Effects** Suspect Adverse reproductive effects in humans.

Glyoxal should be considered as suspicious for potential mutagenic effects. However, there is insufficient information available to demonstrate hereditary genetic alterations. In any case, at room temperature, the vapor pressure of Gliossale is negligible, therefore it does not release significant vapors that can be inhaled.

Below an extract from the European Commission's SCCP study on glyoxal, which, in the section titled "General results - mutagenicity/genotoxicity in vivo," reports:

*"In vivo glyoxal was negative in the micronucleus test on mice after oral administration. [...] After oral administration to the rat, a significant increase of the unscheduled DNA synthesis is found in the pyloric mucosa of the stomach. Glyoxal induced DNA single strand breaks in the liver with a LED of 200 mg/kg. Hardly any DNA lesions could be detected in the kidney, spleen, pancreas or lung."*

## 12

## ECOLOGICAL INFORMATION

### Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Glyoxal	EC50: > 500 mg/L, 72h (Desmodesmus subspicatus) EC50: > 500 mg/L, 96h (Desmodesmus subspicatus) EC50: <= 348.59 mg/L, 96h static (Pseudokirchneriella subcapitata)	LC50: = 215 mg/L, 96h static (Pimephales promelas)	EC50 = 133.7 mg/L 16 h	EC50: = 404 mg/L, 48h (Daphnia magna)

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Ethanol	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Fathead minnow (Pimephales pomelas) LC50 =14200 mg/l/96h	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum: EC50 = 35470 mg/L/5 min	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h
Na <sub>2</sub> H P O <sub>4</sub>	LC50/72h >100 mg/l	LC50/96h >100 mg/l		EC50/48h >100 mg/l

- Mobility:**                   ▪   the product, if dispersed in the environment, can be transported by wastewater
- Persistence and degradability:**                   ▪   Information not available
- Bioaccumulative potential:**                   ▪   Information not available
- Results of PBT and vPvB assessment:**                   ▪   According to the available data, the product does not contain PBT or vPvB substances in percentage higher than 0.1%.
- Other adverse effects:**   ▪   -

## 13 DISPOSAL CONSIDERATIONS

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### Disposal

When the product is used, it must be considered as biological hazardous to be discarded following the legislation rules.

When expired, discard following the legislation rules.

## 14 TRANSPORT INFORMATION

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Product not dangerous for transfer (ADR, RID, ADNR, IMDG/GGVSee, ICAO, IATA) according to Regulation CLP 1272/2008/EU

## 15 REGULATORY INFORMATION

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

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

## Other legislation

Observe employment restrictions related to maternity protection and related matters where applicable.

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

## 15.2 Chemical Safety Assessment

A chemical safety assessment has not been carried out for this product in accordance with Title V, Article 37(4)(c) of Regulation (EC) No 1907/2006.

## 16

## OTHER INFORMATION

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### Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as 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 material or in any process, unless specified in the text. It is the responsibility of the customer/user of the product to ensure that all proprietary rights and applicable regulations have been complied with.

### Changes from previous revision

Update of Section 1 PREPARATION IDENTIFICATION (REF product code update)