

jetMESSENGER™ mRNA Transfection Reagent

Safety Data Sheet dated 21-07-2016, version A.

In compliance with the requirement of the Regulation (EC) N°1907/2006.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Mixture identification:
Trade name: **jetMESSENGER™**
Catalog number: 150-01, 150-07, 150-15

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

Recommended use:
Reagent for the transfer of nucleic acids *in vitro*.
Uses advised against:
For research use only, Not for use in human.

1.3. Details of the supplier of the safety data sheet

Company:
POLYPLUS-TRANSFECTION SA
BIOPARC
850, Boulevard Sébastien Brant
67400 ILLKIRCH
FRANCE
Tel: +33 (0)3 90 40 61 80
Fax: +33 (0)3 90 40 61 81

Competent person responsible for the safety data sheet:
support@polyplus-transfection.com

1.4. Emergency telephone number

National Poisons Information Service: + 44 (0)844 892 0111
On-line information database TOXBASE (www.toxbase.org).

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:
Properties / Symbols: None.
R Phrases: R10 Flammable.
EC regulation criteria 1272/2008 (CLP): Flam. Liq. 3, Flammable liquid and vapour.
Adverse physicochemical, human health and environmental effects: No hazard.

2.2. Label elements

Symbols:



Warning

Hazard statements:

H226 Flammable liquid and vapour.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.

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- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378 In case of fire: Use CO₂ or dry chemical fire extinguisher to extinguish.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None.

2.3. Other hazards

vPvB Substances: None - PBT Substances: None.

Other Hazards:

No other hazards.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not Relevant.

3.2. Mixtures

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:

7-10 % ethanol; ethyl alcohol

Index number: 603-002-00-5, CAS: 64-17-5, EC: 200-578-6

F; R11

Flam. Liq. 2 H225

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None.

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

Treatment: None.

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media:

Water, water spray with additive, multipurpose dry chemicals, CO₂, foams.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Combustion produces volatile vapours heavier than air (risk of spreading along the ground and distant ignition: backfire).

5.3. Advice for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Remove all sources of ignition.
Remove persons to safety.
See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, sand.

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: indicated on the packaging and on the product.
Always keep the containers tightly closed.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Cool and adequately ventilated.

7.3. Specific end use(s)

None in particular.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

ethanol; ethyl alcohol - CAS: 64-17-5
OEL Type: AT - LTE: 1900 mg/m³, 1000 ppm - STE: 3800 mg/m³, 2000 ppm
OEL Type: BE - LTE: 1907 mg/m³, 1000 ppm
OEL Type: DK - LTE: 1900 mg/m³, 1000 ppm - STE: 3800 mg/m³, 2000 ppm
OEL Type: FR - LTE: 1900 mg/m³, 1000 ppm - STE: 9500 mg/m³, 5000 ppm
OEL Type: DE - LTE: 960 mg/m³, 500 ppm - STE: 1920 mg/m³, 1000 ppm
OEL Type: HU - LTE: 1900 mg/m³
OEL Type: PL - LTE: 1900 mg/m³
OEL Type: ES - LTE: 1910 mg/m³, 1000 ppm
OEL Type: SE - LTE: 1000 mg/m³, 500 ppm - STE: 1900 mg/m³, 1000 ppm
OEL Type: GB - LTE: 1920 mg/m³, 1000 ppm

8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

Not needed for normal use.

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Thermal Hazards:

None.

Environmental exposure controls:

None.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, tests have been carried out at 20°C and at normal atmospheric pressure (760 mm Hg - 1 atm).

9.1. Information on basic physical and chemical properties

Appearance and colour:	Liquid
Odour:	N.A.
Odour threshold:	N.A.
pH:	N.A.
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	49°C
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
Solubility in water:	Soluble
Lipid solubility:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

9.2. Other information

Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties:	N.A.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

It may generate flammable gases on contact with elementary metals (alkalis and alkaline earth), nitrides, and powerful reducing agents.

It may catch fire on contact with oxidising mineral acids, elementary metals (alkalis and alkaline earth), nitrides, organic peroxides and hydroperoxides, oxidising agents, and reducing agents.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

None.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Since the mixture has not been generally tested to establish its effects on health, the information pertaining to substances set out in section 3 is provided below.

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ethanol; ethyl alcohol - CAS: 64-17-5

Test: LD50 - Route: Oral - Species: Rat 7060 mg/kg

Test: LD50 - Route: Oral - Species: Rabbit 6300 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat 20000 Ppm - Notes: 1h

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Since no ecotoxicological data about the mixture is available, the concentration of each substance must be considered to assess the ecotoxicological effects resulting from exposure to the mixture.

ethanol; ethyl alcohol - CAS: 64-17-5

Test: LC50 Fish - Duration h: 48 - mg/l: 8.14

Test: EC50 BACTERIA - Duration h: 30 min - mg/l: 34634

Test: EC50 BACTERIA - Duration h: 5 min - mg/l: 35470

Test: EC50 Daphnia - Duration h: 48 - mg/l: 9268

Test: EC50 Daphnia - Duration h: 24 - mg/l: 10800

12.2. Persistence and degradability

None.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14. TRANSPORT INFORMATION

14.1. UN number

ADR-UN number: 1170

IATA-Un number: 1170

IMDG-Un number: 1170

14.2. UN proper shipping name

ADR-Shipping Name: ETHANOL IN SOLUTION

IATA-Technical name: ETHANOL IN SOLUTION

IMDG-Technical name: ETHANOL IN SOLUTION

14.3. Transport hazard class(es)

ADR-Label: 3

IATA-Label: 3

IMDG-Label: 3

14.4. Packing Group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Marine pollutant: No

14.6. Special Precautions for User

IMDG-Technical name: ETHANOL IN SOLUTION

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No.

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SECTION 15. REGULATORY INFORMATION

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

Where applicable, refer to the following regulatory provisions:

Directive 98/24/EC (Risks related to chemical agents at work).

Directive 2000/39/EC (Occupational exposure limit values).

Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.

Regulation (EC) nr 648/2004 (detergents).

Directive 1999/13/EC (VOC directive).

15.2. Chemical Safety Assessment

No.

SECTION 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

R11 Highly flammable.

H225 Highly flammable liquid and vapour.

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECHA CHEM (European Chemicals Agency)

eCHEMPORTAL (OECD Global Portal of Information on Chemical Substances)

GESTIS International Limit Values (IFA)

TOXNET (Hazardous Substances Data Bank)

ESIS (European chemical Substances Information System) - European Commission/Joint Research Centre/Institute for Health and Consumer Protection

ACToR (Aggregated Computational Toxicology Resource - EPA's database on chemical toxicity)

CCR DATA (Ecological Categorization Results from the Canadian Domestic Substance List)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This safety data sheet has been completely updated in compliance with Regulation 453/2010/EU.

This document supersedes any previous version.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
EC50:	Median effective concentration.
IATA:	International Air Transport Association.
IMDG:	International Maritime Code for Dangerous Goods.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
N.A.:	Not available
OEL:	Occupational exposure limit.
PBT:	Persistent, Bioaccumulative and Toxic.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
vPvB:	very Persistent and very Bioaccumulative.

End of the safety data sheet.