

## jetMESSENGER® mRNA Transfection Reagent

Safety Data Sheet dated 20-11-2020, version E.

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, 101000056, 101000005

#### 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  
75 rue Marguerite Perey  
67400 ILLKIRCH  
FRANCE  
Tel: +33 (0)3 90 40 61 80

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](http://www.toxbase.org)).

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

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.

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.

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P370+P378 In case of fire: Use CO<sub>2</sub> 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 and PBT Substances:**

This substance/mixture does not contain components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Endocrine disrupting properties:**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight.

**Other Hazards:**

No other hazards.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Substances**

Not Relevant.

**3.2. Mixtures****Transfection reagent in aqueous solution.**

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

Flam. Liq. 2 H225

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**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.

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**SECTION 5. FIRE-FIGHTING MEASURES****5.1. Extinguishing media**

Suitable extinguishing media:

Water, water spray with additive, multipurpose dry chemicals, CO<sub>2</sub>, 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**

**jetMESSENGER® mRNA Transfection Reagent****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.

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**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.

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters**

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

OEL Type: AT - LTE: 1900 mg/m<sup>3</sup>, 1000 ppm - STE: 3800 mg/m<sup>3</sup>, 2000 ppm

OEL Type: BE - LTE: 1907 mg/m<sup>3</sup>, 1000 ppm

OEL Type: DK - LTE: 1900 mg/m<sup>3</sup>, 1000 ppm - STE: 3800 mg/m<sup>3</sup>, 2000 ppm

OEL Type: FR - LTE: 1900 mg/m<sup>3</sup>, 1000 ppm - STE: 9500 mg/m<sup>3</sup>, 5000 ppm

OEL Type: DE - LTE: 960 mg/m<sup>3</sup>, 500 ppm - STE: 1920 mg/m<sup>3</sup>, 1000 ppm

OEL Type: HU - LTE: 1900 mg/m<sup>3</sup>

OEL Type: PL - LTE: 1900 mg/m<sup>3</sup>

OEL Type: ES - LTE: 1910 mg/m<sup>3</sup>, 1000 ppm

OEL Type: SE - LTE: 1000 mg/m<sup>3</sup>, 500 ppm - STE: 1900 mg/m<sup>3</sup>, 1000 ppm

OEL Type: GB - LTE: 1920 mg/m<sup>3</sup>, 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.

Thermal Hazards:

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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 hazard classes as defined in Regulation (EC) No 1272/2008**

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.

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

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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

**11.2. Information on other hazards****11.2.1 Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight.

**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. Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight.

**12.7. 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 or ID 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

**jetMESSENGER® mRNA Transfection Reagent****14.6. Special Precautions for User**

IMDG-Technical name: ETHANOL IN SOLUTION

**14.7. Maritime transport in bulk according to IMO instruments**

No.

**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 2012/18/EU (Control of major-accident hazards involving dangerous substances) and subsequent amendments.

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

Directive 2010/75/EU (integrated pollution prevention and control).

**15.2. Chemical Safety Assessment**

No.

**SECTION 16. OTHER INFORMATION**

Full text of phrases referred to in Section 3:

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 (CE) 1907/2006.

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.