

## MATERIAL SAFETY DATA SHEET

## 1 IDENTIFICATION

Details of the supplier of the safety data sheet : Company : Nanohelix Co., Ltd.

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Quality control, Nanohelix Co., Ltd.

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**Product Name** : Enzyme Mix [Hot-Taq], w/UDG

**U.N.Number** : None allocated : None allocated Dangerous Goods Class

and Subsidiary Risk

: None allocated Hazchem Code Poison Schedule : None allocated

Use : Enzyme mix used in One-Step RT-PCR

## 2 HAZARDS IDENTIFICATION

**GHS Classification** : Not a hazardous substance or mixture. GHS Label element : Not a hazardous substance or mixture. Other hazards : Not a hazardous substance or mixture.

#### 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Description : The product is a mixture of the hazardous substances listed

> below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances may be

withheld as a Nanohelix Co., Ltd. trade secret.

Hazardous ingredients

Name	CAS No.	Weight (%)
Glycerol	56-81-5	>=20 - <35

#### 4 FIRST-AID MEASURES

General advice : Show this material safety data sheet to the doctor in attendance.

: Move to fresh air. If symptoms persist, call a physician. If inhaled In case of skin contact : Wash off immediately with soap and plenty of water while

removing all contaminated clothes and shoes. If symptoms

persist, call a physician.

In case of eye contact : Remove contact lenses. Protect unharmed eye. Rinse thoroughly

with plenty of water for at least 15 minutes and consult a

physician.

If swallowed : If accidentally swallowed obtain immediate medical attention.

Rinse mouth with water. Never give anything by mouth to an

unconscious person.

Most important symptoms and

effects, both acute and delayed

: No information available.

Notes to physician : No information available.





#### 5 FIRE FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local

circumstances and the surrounding environment.

Specific hazards during fire

fighting

Hazardous combustion products: Carbon oxides, Nitrogen oxides (NOx) Specific extinguishing methods

: In the event of fire and/or explosion do not breathe fumes.

: Exposure to decomposition products may be a hazard to health.

Special protective equipment for fire-fighters

: Wear self-contained breathing apparatus for firefighting if

necessary.

#### 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective : Use personal protective equipment.

equipment and emergency

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

procedures

Methods and materials for

: Keep in suitable, closed containers for disposal.

containment and cleaning up

7 HANDLING AND STORAGE

Advice on safe handling

Advice on protection against fire : Normal measures for preventive fire protection.

and explosion

: For personal protection see section 8. Smoking, eating and

drinking should be prohibited in the application area.

: Do not store near acids. Materials to avoid

#### 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m³	OSHA Z-1
		TWA (mist, total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (Total)	10 mg/m³	OSHA P0
		TWA (Respirable fraction)	5 mg/m³	OSHA P0
		TWA	10 mg/m³	ACGIH
		TWA (Mist - total dust)	10 mg/m <sup>3</sup>	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m³	OSHA P0

# Personal protective equipment

Hand protection

Remarks : The choice of an appropriate glove does not only depend on its

material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration

of contact).

Eye protection : Safety glasse.

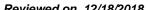
Skin and body protection : Choose body protection according to the amount and

concentration of the dangerous substance at the work place.

Footwear protecting against chemicals.

Hygiene measures : Keep away from food and drink. When using do not eat, drink

or smoke.





## 9 PHYSICAL AND CHEMICAL PROPERTIES

: Liquid **Appearance** 

Color : No data available. Odor : Characteristic **Odor Threshold** : No data available. рΗ : No data available. Melting point/range : No data available. Boiling point/boiling range : No data available. : No data available. Flash point Evaporation rate : No data available. : No data available. Burning rate Upper explosion limit : No data available. Lower explosion limit : No data available. Vapor pressure : No data available. Relative vapor density : No data available. Relative density : No data available. : No data available. Density

Solubility(ies)

: No data available. Water solubility Solubility in other solvents : No data available. Partition coefficient: : No data available.

n-octanol/water

: Not determined. Autoignition temperature Decomposition temperature : No data available. **Viscosity** : No data available.

Viscosity, dynamic

: No data available. Viscosity, kinematic Explosive properties : No data available. : No data available. Oxidizing properties

#### 10 STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed. Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous : Stable under recommended storage conditions. Hazardous

reactions decomposition products formed under fire conditions.

Conditions to avoid : No data available. Incompatible materials : No data available.

Hazardous decomposition : No decomposition if stored and applied as directed.

products

#### 11 TOXICOLOGICAL INFORMATION

: Not classified based on available information. Acute toxicity

**Product** 

: No data available. Acute oral toxicity Acute inhalation toxicity : No data available. Acute dermal toxicity : No data available.

**Ingredients** 

glycerol

Acute oral toxicity : LD<sub>50</sub> Oral (Rat): 12,000 mg/kg Acute dermal toxicity : LD<sub>50</sub> Dermal (Rabbit): 10,000 mg/kg

Skin corrosion/irritation : Not classified based on available information.





**Product** : Remarks - May cause skin irritation in susceptible persons.

**Ingredients** 

: Species - Rabbit glycerol

> Exposure time - 24 h Result - Mild skin irritation

Serious eye damage/eye : Not classified based on available information.

irritation

**Product** : Remarks - May irritate eyes.

**Ingredients** 

glycerol : Species - Rabbit

> Result - Mild eye irritation Exposure time - 24 h

Respiratory or skin : Skin sensitization - Not classified based on available

sensitization information.

Respiratory sensitization - Not classified based on available

information.

Germ cell mutagenicity : Not classified based on available information. Carcinogenicity : Not classified based on available information.

**IARC** : No ingredient of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC

**OSHA** : No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential

carcinogen by OSHA.

NTP : No ingredient of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated

carcinogen by NTP.

Reproductive toxicity : Not classified based on available information. STOT-single exposure : Not classified based on available information. STOT-repeated exposure : Not classified based on available information. Aspiration toxicity : Not classified based on available information.

Further information : No data available.

#### 12 ECOLOGICAL INFORMATION

#### **Ecotoxicity**

#### **Product**

Toxicity to fish : No data available. Toxicity to algae : No data available. Toxicity to bacteria : No data available.

Ingredients glycerol

> Toxicity to fish : LC<sub>50</sub> (Leuciscus idus (Golden orfe)): > 250 mg/l Exposure time:

> > 48 h.

Persistence and degradability

Bioaccumulative potential

: No data available.

**Product** : Bioaccumulation - No data available.

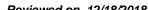
Mobility in soil : No data available.

Other adverse effects

**Product** 

Ozone-Depletion Potential : Regulation - 40 CFR Protection of Environment; Part 82

Protection of Stratospheric Ozone - CAA Section 602 Class I





Substances

Remarks - This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air

Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological

information

: No data available.

# 13 DISPOSAL CONSIDERATION

Disposal methods

Contaminated packaging : Empty containers should be taken to an approved waste

: No data available.

handling site for recycling or disposal.

#### 14 TRANSPORT INFORMATION

**UNRTDG** : Not regulated as a dangerous good. IATA-DGR : Not regulated as a dangerous good. IMDG-Code : Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and

the IBC Code

Domestic regulation

49 CFR : Not regulated as a dangerous good.

#### 15 REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know** 

SARA 311/312 Hazards : No SARA Hazards.

**SARA 302** : No chemicals in this material are subject to the reporting

requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Prop. 65 : This product does not contain any chemicals known to the State

of California to cause cancer, birth, or any other reproductive

defects.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

#### **16 OTHER INFORMTION**

The data provided in this Material Safety Data Sheet is based on current experience and knowledge. The purpose of this Material Safety Data Sheet is to describe products in terms of their safety requirements. This data given is designed only as a guidance for safe handling, use, storage, transportation, disposal and is not to be considered quality specification or warranty. The above details do not imply any guarantee concerning composition or performance of this product.