

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**Product Identifier**

Perihalan Produk:

Gold nanoparticles

Product Description:

Gold nanoparticles

Cat No. :

J67276

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

**Company**

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
Selangor Darul Ehsan, Malaysia.  
Main line: +60 3-5525 7888

**Supplier**

E-mail address

Enquiry.my@thermofisher.com

Emergency Telephone Number

Tel: +03-5525 7888  
CHEMTREC Malaysia **1-800-815-308** (Malay)  
CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**

**Classification of the substance or mixture**

**Label Elements**

**Hazard Statements**

**Other Hazards**

EUH210 - Safety data sheet available on request

This product does not contain any known or suspected endocrine disruptors

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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Component	CAS No	Weight %
Water	7732-18-5	99.9804
Gold	7440-57-5	0.01
Sodium chloride	7647-14-5	0.008
Sodium phosphate dibasic	7558-79-4	0.0011
Dihydrogen potassium phosphate	7778-77-0	0.0003
Potassium chloride	7447-40-7	0.0002

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Self-Protection of the First Aider</b>	No special precautions required.

### Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

### Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

Not combustible.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### Special hazards arising from the substance or mixture

None reasonably foreseeable.

### **Hazardous Combustion Products**

Hydrogen chloride, Oxides of phosphorus, Potassium oxides, Sodium oxides, Gold oxide.

### Advice for fire-fighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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## Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective equipment as required.

## Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

## Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal.

## Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

### Conditions for Safe Storage, Including any Incompatibilities

Keep refrigerated.

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

### Exposure Controls

#### Engineering Measures

None under normal use conditions.

### Personal protective equipment

#### **Eye Protection**

Wear safety glasses with side shields (or goggles)

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### **Respiratory Protection**

No protective equipment is needed under normal use conditions

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Recommended Filter type: Particle filter

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### Appearance

Physical State

Liquid

Odor

Odorless

Odor Threshold

No data available

pH

5 - 7

Melting Point/Range

No data available

Softening Point

No data available

Boiling Point/Range

No information available

Flash Point

No information available

Method - No information available

Evaporation Rate

No data available

Flammability (solid,gas)

Not applicable

Liquid

Explosion Limits

No data available

Vapor Pressure

23 hPa @ 20 °C

Vapor Density

No data available

(Air = 1.0)

Specific Gravity / Density

No data available

Bulk Density

Not applicable

Liquid

Water Solubility

Miscible

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

Autoignition Temperature

No data available

Decomposition Temperature

No data available

Viscosity

No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

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## Chemical Stability

Light sensitive.

## Possibility of Hazardous Reactions

**Hazardous Polymerization** No information available.  
**Hazardous Reactions** None under normal processing.

## Conditions to Avoid

None known.

## Incompatible Materials

None known.

## Hazardous Decomposition Products

Hydrogen chloride. Oxides of phosphorus. Potassium oxides. Sodium oxides. Gold oxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

**Oral** Based on available data, the classification criteria are not met  
**Dermal** No data available  
**Inhalation** No data available

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Sodium chloride	LD50 = 3550 mg/kg ( Rat )	LD50 > 10000 mg/kg ( Rabbit )	LC50 > 42 mg/L ( Rat ) 1 h
Sodium phosphate dibasic	LD50 = 17 g/kg ( Rat )	-	-
Dihydrogen potassium phosphate	LD50 = 3200 mg/kg ( Rat )	LD50 > 4640 mg/kg ( Rabbit )	LC50 > 0.83 mg/L ( Rat ) 4 h
Potassium chloride	LD50 = 2600 mg/kg ( Rat )	-	-

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

##### (d) respiratory or skin sensitization;

**Respiratory** No data available  
**Skin** No data available

(e) germ cell mutagenicity; No data available

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(f) carcinogenicity; No data available  
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects, both acute and delayed No information available.

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects** May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sodium chloride	Pimephals prome: LC50: 7650 mg/L/96h	EC50: 1000 mg/L/48h		
Potassium chloride	Lepomis macrochirus: LC50: 1060 mg/L /96h Pimephales promelas: LC50: 750 - 1020 mg/L /96h	EC50: 825 mg/L/48h	EC50: 2500 mg/L/72h	

**Persistence and degradability** Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary based on information available, May persist.  
**Persistence**  
**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative potential** May have some potential to bioaccumulate

**Mobility in soil** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**Other adverse effects** No information available

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## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from Residues/Unused Products**

Dispose of in accordance with local regulations

**Contaminated Packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal

## SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

Not regulated

Road and Rail Transport

Not regulated

IATA

Not regulated

**Special Precautions for User**

No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories**

X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Water	231-791-2	X	X	X	X		X	X	KE-35400
Gold	231-165-9	X	X	X	X		X	X	KE-18083
Sodium chloride	231-598-3	X	X	X	X	X	X	X	KE-31387
Sodium phosphate dibasic	231-448-7	X	X	X	X	X	X	X	KE-12344
Dihydrogen potassium phosphate	231-913-4	X	X	X	X	X	X	X	KE-28622
Potassium chloride	231-211-8	X	X	X	X	X	X	X	KE-29086

### National Regulations

**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

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KECL - Korean Existing and Evaluated Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

## Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Prepared By

Health, Safety and Environmental Department

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31-Mar-2025

Revision Summary

Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**