Safety Data Sheet

according to UK REACH Regulation

GYEON Q²M Purify Maintain

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

GYEON Q²M Purify Maintain

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

Use of the substance/mixture

Biocidal products (e.g. Disinfectants, pest control)
Industrial uses

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name:	Gyeon Technology
Street:	1405-538, 212, Gasan digital 1-ro
Place:	Geumcheon-gu, Seoul, Korea
Telephone:	+82-10-4339-3599
Contact person:	Robert Gyeon
E-mail:	sales@gyeon.co

Supplier

Company name:	Gyeon UK Ltd
Street:	Commercial Quay, 84 Commercial Stree
Place:	GB-EH6 6LX Edinburgh
E-mail:	hello@gyeonquartz.uk
Contact person:	Richard Cooper Telephone: +44 (0)7984 056790

1.4. Emergency telephone number:

National Poisons Information Service - 03448920111. 'For healthcare professionals only'.

Further Information

Safety Data Sheet according to UK-REACH Regulation

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

This mixture is not classified as hazardous in accordance with GB CLP Regulation.

2.2. Label elements

GB CLP Regulation

Special labelling of certain mixtures

EUH208 Contains Cinnamaldehyde. May produce an allergic reaction.

2.3. Other hazards

The substances in the mixture (> 0.1%) do not meet the PBT/vPvB criteria according to UK REACH.
This product does not contain a substance (> 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria. This product does not contain a substance (> 0,1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name	Quantity

	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
104-55-2	Cinnamaldehyde			< 0.1 %
	203-213-9		01-2119935242-45	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1A; H312 H315 H319 H317			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
104-55-2	203-213-9	Cinnamaldehyde	< 0.1 %
	inhalation: LC50 = 68,88 mg/l (vapours); dermal: LD50 = > 1000 mg/kg; oral: LD50 = 2220 mg/kg Skin Sens. 1A; H317: >= 0,01 - 100		

Further Information

Product does not contain listed SVHC substances > 0.1 % according to UK REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

See sections 2 and 11

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2). Dry extinguishing powder. Alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide. Carbon dioxide (CO2).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Safe handling: see section 7

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Further information on handling

General protection and hygiene measures: refer to section 8

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorbtion of humidity.
Recommended storage temperature: 20 °C
Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7440-50-8	Copper, dusts and mists (as Cu)	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
7758-99-8	copper sulphate pentahydrate		
Worker DNEL, long-term	inhalation	systemic	1 mg/m³
Worker DNEL, long-term	inhalation	local	1 mg/m³
Worker DNEL, long-term	dermal	systemic	137 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,041 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	0,082 mg/kg bw/day
104-55-2	Cinnamaldehyde		
Worker DNEL, long-term	inhalation	systemic	2,204 mg/m³
Worker DNEL, long-term	dermal	systemic	2,513 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,543 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,625 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	2,5 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
7758-99-8	copper sulphate pentahydrate
Freshwater	0,0078 mg/l
Marine water	0,0052 mg/l
Freshwater sediment	87 mg/kg
Marine sediment	676 mg/kg
Micro-organisms in sewage treatment plants (STP)	0,23 mg/l
Soil	65 mg/kg
104-55-2	Cinnamaldehyde
Freshwater	1,004 mg/l
Marine water	0,1 mg/l
Freshwater sediment	159,185 mg/kg
Marine sediment	159,185 mg/kg
Secondary poisoning	0 mg/kg
Micro-organisms in sewage treatment plants (STP)	13,119 mg/l
Soil	56,085 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible). EN ISO 16321-1:2022

Hand protection

In case of prolonged or frequently repeated skin contact:
Wear suitable gloves.
Suitable material:
FKM (fluororubber). - Thickness of glove material: 0,4 mm
Breakthrough time >= 8 h
Butyl rubber. - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm
Breakthrough time >= 8 h
PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm
Breakthrough time >= 8 h
The selected protective gloves have to satisfy the specifications of the Personal Protective Equipment at Work (Amendment) Regulations 2022 and the standard EN ISO 374.
Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Environmental exposure controls

No special precautionary measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	white	
Odour:	characteristic	
Odour threshold:	not determined	
Melting point/freezing point:		0 °C
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		Not combustible
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not applicable
Auto-ignition temperature:		not determined
Decomposition temperature:		No data available
pH-Value:		7 - 10
Viscosity / kinematic: (at 20 °C)		44170 mm²/s
Water solubility:		not determined

Solubility in other solvents
not determined

Dissolution rate:	not relevant
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	not relevant
Vapour pressure:	23 hPa
Density:	1,05 g/cm³
Bulk density:	not relevant
Relative vapour density:	not determined
Particle characteristics:	not relevant

9.2. Other information

Information with regard to physical hazard classes

Explosive properties
none

Sustaining combustion:	Not sustaining combustion

Self-ignition temperature

Solid:	not relevant
Gas:	not relevant

Oxidizing properties
none

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	not determined
Sublimation point:	not relevant
Softening point:	not relevant
Pour point:	not relevant
Viscosity / dynamic:	not determined
Flow time:	not determined

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.
Refer to section 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
104-55-2	Cinnamaldehyde					
	oral	LD50 mg/kg	2220	Rat	REACH dossier	
	dermal	LD50 mg/kg	> 1000	Rabbit	REACH dossier	
	inhalation vapour	LC50 mg/l	68,88	Rat	REACH dossier	

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.
Contains Cinnamaldehyde. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance (> 0,1%) that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

No data available.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.
The product has not been tested.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
104-55-2	Cinnamaldehyde						
	Acute fish toxicity	LC50 mg/l	4,15	96 h	Danio rerio	REACH dossier	Council Directive 92/69/EEC C.1

	Acute algae toxicity	ErC50 mg/l	31,6	72 h	Desmodesmus subspicatus	REACH dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	3,21	48 h	Daphnia magna	REACH dossier	OECD Guideline 202
	Acute bacteria toxicity	EC50	71 mg/l ( )	3 h	Activated sludge	REACH dossier	ISO 8192

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
104-55-2	Cinnamaldehyde			
	OECD Guideline 301 D	>60 %	14	REACH dossier
	Readily biodegradable (according to OECD criteria).			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
104-55-2	Cinnamaldehyde	2,107

BCF

CAS No	Chemical name	BCF	Species	Source
104-55-2	Cinnamaldehyde	147,91		QSAR

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.7. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal.
Non-contaminated packages may be recycled.
According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.
Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

200130 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); detergents other than those mentioned in 20 01 29

List of Wastes Code - used product

200130 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); detergents other than those mentioned in 20 01 29

List of Wastes Code - contaminated packaging

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Refer to section 6 - 8

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 75

Directive 2010/75/EU on industrial emissions:	not determined
Directive 2004/42/EC on VOC in paints and varnishes:	not determined
Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to UK-REACH Regulation
This mixture is classified as not hazardous according to GHS (GB CLP).
UK REACH Appendix XVII, No (mixture): not relevant

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
Cinnamaldehyde

SECTION 16: Other information

Changes

Rev. 1,0; Initial release: 05.04.2024

Abbreviations and acronyms

Acute Tox: Acute toxicity
Skin Irrit: Skin irritation
Eye Dam: Eye damage
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Aquatic Acute: Acute aquatic hazard
Aquatic Chronic: Chronic aquatic hazard
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS: Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds
WGK: Water Hazard Class (Germany)

Relevant H and EUH statements (number and full text)

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
EUH208	Contains Cinnamaldehyde. May produce an allergic reaction.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product

named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)