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

1.1. Product identifier

Product Description: Kojic acid
Cat No.: 205220000; 205220050; 205220250; 205221000; 205225000
Synonyms: 5-Hydroxy-2-(hydroxymethyl)-4H-pyran-4-one
CAS-No: 501-30-4
EC-No: 207-922-4
Molecular Formula: C6 H6 O4

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

Recommended Use: Laboratory chemicals.
Uses advised against: No Information available

1.3. Details of the supplier of the safety data sheet

Company
UK entity/business name: Fisher Scientific UK
Bishop Meadow Road, Loughborough,
Leicestershire LE11 5RG, United Kingdom

EU entity/business name: Acros Organics BVBA
Janssen Pharmaceuticalslaan 3a
2440 Geel, Belgium

E-mail address: begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US: 001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US: 001-800-424-9300 / Europe: 001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards
Based on available data, the classification criteria are not met

Health hazards
2.2. Label elements

Signal Word  Warning

Hazard Statements  H351 - Suspected of causing cancer

Precautionary Statements
- P201 - Obtain special instructions before use
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P308 + P313 - IF exposed or concerned: Get medical advice/attention

2.3. Other hazards

No information available
- Contains a known or suspected endocrine disruptor
- Contains a substance on the National Authorities Endocrine Disruptor Lists

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>EC-No.</th>
<th>Weight %</th>
<th>CLP Classification - Regulation (EC) No 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Hydroxy-2-hydroxymethyl-4-pyrone</td>
<td>501-30-4</td>
<td>EEC No. 207-922-4</td>
<td>&gt;95</td>
<td>Carc. 2 (H351)</td>
</tr>
</tbody>
</table>

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice  If symptoms persist, call a physician.

Eye Contact  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get
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**Kojic acid**

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### Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

### Ingestion
Do NOT induce vomiting. Get medical attention.

### Inhalation
Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.

### Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

#### 4.2. Most important symptoms and effects, both acute and delayed
No information available.

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

**Notes to Physician**
Treat symptomatically.

### SECTION 5: FIREFIGHTING MEASURES

#### 5.1. Extinguishing media

**Suitable Extinguishing Media**
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

**Extinguishing media which must not be used for safety reasons**
No information available.

#### 5.2. Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**
Carbon monoxide (CO), Carbon dioxide (CO2).

#### 5.3. Advice for firefighters
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

#### 6.1. Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

#### 6.2. Environmental precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.

#### 6.3. Methods and material for containment and cleaning up
Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

#### 6.4. Reference to other sections
Refer to protective measures listed in Sections 8 and 13.
SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

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

7.2. Conditions for safe storage, including any incompatibilities
Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)
Class 11

7.3. Specific end use(s)
Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)
No information available

Predicted No Effect Concentration (PNEC)
No information available.

8.2. Exposure controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment
Eye Protection
Goggles (European standard - EN 166)

Hand Protection
Protective gloves

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>EU standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrile rubber</td>
<td>See manufacturers</td>
<td>-</td>
<td>EN 374</td>
<td>(minimum requirement)</td>
</tr>
<tr>
<td>Neoprene</td>
<td>recommendations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural rubber</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

Large scale/emergency use
Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
**Recommended Filter type:** Particulates filter conforming to EN 143

Small scale/Laboratory use
Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
**Recommended half mask:-** Particle filtering: EN149:2001
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls
No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State
Powder Solid

Appearance
Beige

Odor
Odorless

Odor Threshold
No data available

Melting Point/Range
151 - 156 °C / 303.8 - 312.8 °F

Softening Point
No data available

Boiling Point/Range
No information available

Flammability (liquid)
Not applicable

Flammability (solid,gas)
No information available

Explosion Limits
No data available

Flash Point
No information available

Autoignition Temperature
No data available

Decomposition Temperature
No data available

pH
No information available

Viscosity
Not applicable

Water Solubility
Soluble

Solubility in other solvents
No information available

Partition Coefficient (n-octanol/water)

ACR20522
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9.2. Other information

Molecular Formula  C6 H6 O4
Molecular Weight  142.11
Evaporation Rate  Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid


10.5. Incompatible materials

Strong oxidizing agents. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information  No acute toxicity information is available for this product

(a) acute toxicity;

Oral  No data available
Dermal  No data available
Inhalation  No data available

(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
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(e) germ cell mutagenicity;
No data available

(f) carcinogenicity;
Category 2
Possible cancer hazard. May cause cancer based on animal data. The table below indicates whether each agency has listed any ingredient as a carcinogen.

(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;
Not applicable

Solid

Other Adverse Effects
The toxicological properties have not been fully investigated.

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

11.2. Information on other hazards

Endocrine Disrupting Properties
Assess endocrine disrupting properties for human health
Contains a substance on the National Authorities Endocrine Disruptor Lists

<table>
<thead>
<tr>
<th>Component</th>
<th>EU National Authorities Endocrine Disruptor Lists - Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Hydroxy-2-hydroxymethyl-4-pyrone</td>
<td>List II</td>
</tr>
<tr>
<td>501-30-4 (&gt;95)</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects
Do not empty into drains.

12.2. Persistence and degradability
Persistence
Soluble in water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential
Bioaccumulation is unlikely

12.4. 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.
12.5. Results of PBT and vPvB assessment

No data available for assessment.

12.6. Endocrine disrupting properties

Endocrine Disruptor Information
Assess endocrine disrupting properties for the environment

This product does not contain any known or suspected endocrine disruptors
Contains a substance on the National Authorities Endocrine Disruptor Lists.

<table>
<thead>
<tr>
<th>Component</th>
<th>EU National Authorities Endocrine Disruptor Lists - Environment</th>
<th>Japan - Endocrine Disruptor Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Hydroxy-2-hydroxymethyl-4-pyrone 501-30-4 (&gt;95)</td>
<td>List II</td>
<td></td>
</tr>
</tbody>
</table>

12.7. Other adverse effects

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 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products
Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging
Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC)
According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information
Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

ADR

Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

IATA

Not regulated

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group

14.5. Environmental hazards
No hazards identified
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14.6. Special precautions for user
No special precautions required

14.7. Maritime transport in bulk according to IMO instruments
Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories
X = listed, Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), China (IECSC), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>PICCS</th>
<th>IECSC</th>
<th>ENCS</th>
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<td>207-922-4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2014-3-5741</td>
<td></td>
</tr>
</tbody>
</table>

Not applicable

National Regulations

WGK Classification
Water endangering class = 3 (self classification)

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H351 - Suspected of causing cancer

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
KECL - Korean Existing and Evaluated Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSDL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
Predicted No Effect Concentration (PNEC)
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative
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Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.

Creation Date 26-Feb-2008
Revision Date 17-Jun-2021
Revision Summary Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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