



Safety Data Sheet: Bongkreikic acid

1. Identification of the substance/mixture and of the Company
1.1. Product identifiers

Product name	Bongkreikic acid	Formula	$C_{28}H_{38}O_7$
Product Code	BNG	RTECS	JR1230000
CAS #	11076-19-0	Molecular weight	486.6
EC Number #	N.A.	Substance? Mixture?	Substance
		Date of version	11 January, 2022
Synonyms	Flavotoxin A		

1.2. Intended uses of the substance or mixture and uses advised against

1.2.1. Intended use:	1.2.2. Uses advised against:
Research and development. Laboratory reagent. Reference material. Analytical standard	Not for drug, Not to be used in humans or animals. Not food additive

1.3. Details of the supplier of the safety data sheet

FERMENTEK Ltd
 4 Yatziv street, POB 47120
 Jerusalem 97800,
 Israel

Tel: +972 2 5853953
 Fax: +972 2 5853943
 eMail: fermentek@fermentek.com
 Website: www.fermentek.com

1.4. Emergency Telephone number

For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night:
 Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887

This company is the manufacturer of the product, and the supplier of the safety data sheet

1.5. Reach:

See section 15

2. Hazards identification
2.1. Classification of the substance or mixture
2.1.1. GHS Classification According to EU Reg. 1272/2008 and US OSHA 1910.1200)

Acute Toxicity, Ingestion	Category 2	H300	Fatal if swallowed
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2.2. GHS Label elements, including precautionary statements

2.2.1. Pictogram: Signal word: {DANGER}

2.2.2. GHS Hazard Statements

H300	Fatal if swallowed,
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2.2.3. GHS Precautionary Statements

P201	Obtain special instructions before use.
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P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, on skin, or on clothing
P264	Wash {hands} thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P280	Wear {protective gloves/protective clothing/eye protection/face protection}.
P284	Wear respiratory protection

2.2.4. GHS Response Phrases

P308+313	IF EXPOSED OR CONCERNED: Get medical advice/attention
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P302 + P352 + P310	IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/doctor
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

3. Composition/information on ingredients

Substance	
Substance name:	Bongkreki acid
Concentration	100%
	CAS Registry #: 11076-19-0 EC#: <i>N.A</i>
	Molecular Formula: C28 H38 O7 Molecular Weight: 486.6
Classification	Acute Tox. 2; H300
Mixture?	<i>Substance</i>

4. First Aid Measures

4.1. Description of First Aid Measures

General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance.
Eye contact:	Flush eyes with water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact:	Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
Ingestion:	Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Transfer to hospital as soon as possible. Consult a physician.
Inhalation:	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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

Skin Contact:	There may be redness or whiteness of the skin in the area of exposure. Irritation or pain may occur at the site of contact. Absorption through the skin may be fatal.
Eye contact:	There may be severe pain. The eyes may water profusely.
Ingestion:	Symptoms manifest involving the liver, brain, and kidneys and when coconut- or corn-based foods are implicated. Reported symptoms include malaise, dizziness, somnolence, excessive sweating, palpitations, abdominal pain, vomiting, diarrhea, hematochezia oliguria, hematuria, and urinary retention. Findings during patient examination include hypotension, arrhythmias, hyperthermia,



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	<p>icterus, jaundice, and rigidity of extremities, Cheyne-Stokes respirations, pulmonary rales, lethargy, delirium, shock, coma, and death.</p> <p>Laboratory abnormalities include an initial hyperglycemia followed by hypoglycemia, abnormal liver function tests, normal red blood cell count and hemoglobin, and an increase in white blood cell count</p>
Inhalation:	<p>There may be shortness of breath with a burning sensation in the throat. Absorption through the lungs can occur causing symptoms similar to those of ingestion. Convulsions may occur. There may be loss of consciousness.</p>

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

	<p>Management of patients is symptomatic and supportive.</p>
Antidote	<p>There is no antidote for bongkreikic acid poisoning. Treatment involves supportive care in a hospital, and many cases will require treatment in an intensive care unit.</p>

5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	None known

5.2. Other information

Hazardous combustion products	Carbon oxides,
Advice for firefighters	Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit.

6. Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

Personal precautions	Use personal protective equipment as required. Keep people away from and upwind of spill/leak.
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6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
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6.3. Methods and material for containment and cleaning up

Methods for containment:	Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up:	Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling:	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.
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7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions:	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Reportedly, Light sensitive. Store at -20 °C.
Suitable packaging	Must only be kept in original packaging.
Incompatible materials:	None known based on information available.

8. Exposure Controls/Personal Protection

8.1. Control parameters

Control parameters	Components with workplace control parameters
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8.2. Exposure controls

Appropriate engineering controls	Showers, Eyewash stations, Ventilation systems Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use fumehood for routine work.
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8.3. Personal protective equipment

<i>[PPE=Personal Protection Equipment]</i>	The employer/end user, prior to use of this product should perform all recommendations below are advisory in nature and a risk assessment. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.
PPE: Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
PPE: Hand Protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
PPE: Eye Protection:	Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
PPE: Skin and Body Protection:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

9. Physical and chemical properties

9.1. Physical / chemical properties

Physical State at room temperature	Solid, or /lyophilized powder
Color	White/colorless
Odor	Odorless
Melting/freezing point	Not applicable (lyophilized)



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No further safety relevant data are available

10. Stability and reactivity

Reactivity:	No information available.
Chemical stability:	Stable under normal conditions.
Conditions to avoid	Heat, flames and sparks. Sunlight.
Incompatible materials	Strong reducers and oxidizers
Possibility of Hazardous Reactions	None under normal processing
Hazardous decomposition products	Carbon oxides

11. Toxicological information

11.1. Information on toxicological effects

The toxicological effects of this product have not been thoroughly studied.

11.1.1. Acute Toxicity	Letal dose, human 0.1 mg/kg or 0.1 mg/liter of blood LD50, oral, mouse < 2 mg/kg
Skin corrosion/irritation:	No data available
Serious eye damage/eye irritation:	No data available
Respiratory or skin sensitization/corrosion:	No data available
Germ cell mutagenicity:	No data available
11.1.2. CMR hazards	
Carcinogenicity	Group 3: Not classified as human carcinogen IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA
Reproductive toxicity / Teratogenicity:	No data available
11.1.3. Other	
STOT-SE – single exposure (GHS):	No data available
STOT-SE – repeated exposure (GHS):	No data available
Aspiration hazard:	No data available

11.2. Additional information

RTECS number	JR1230000
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12. Ecological Information

Eco-Toxicity	No further relevant information available
Other adverse effects	No further relevant information available.

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13. Disposal Considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations
Contaminated packaging	Dispose of as unused product

14. Transport information

14.1. UN number, Proper Shipping Name, Transport Hazard Class, packing group

	US DOT	US DOT	US DOT	US DOT
UN Number	UN 3642	UN 3642	UN 3642	UN 3642
UN proper shipping name	Toxins, Extracted from Living Sources, Solid, N.O.S. (<i>Bongkreikic acid</i>)	Toxins, Extracted from Living Sources, Solid, N.O.S. (<i>Bongkreikic acid</i>)	Toxins, Extracted from Living Sources, Solid, N.O.S. (<i>Bongkreikic acid</i>)	Toxins, Extracted from Living Sources, Solid, N.O.S. (<i>Bongkreikic acid</i>)
Transport Hazard Class & Packing Group	6.1, I	6.1, I	6.1, I	6.1, I

14.2. Additional information

			Not marine pollutant	
Excepted quantities (EQ)	Code: E5; Maximum net quantity per inner packaging: 1 g ; Maximum net quantity per outer packaging: 300 g			

15. Regulatory information

15.1. Safety, health, and environmental regulations/legislation

USA EPA / TSCA	This product is not listed on the USA EPA TSCA (it is for research)
EU ECHA Status	This product is not registered with the EU ECHA, Number N.A ANNEX III: Not Listed REACH: Not Listed
CA: DSL/NDSL Status	This product is not listed on the Canadian DSL/NDSL

16. Other information

16.1. Date of revision:

<ul style="list-style-type: none"> Tuesday, 11 January, 2022 17:01

16.2. Department issuing this SDS

<ul style="list-style-type: none"> Quality systems and regulatory affairs
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16.3. General Disclaimer

<ul style="list-style-type: none"> 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 here is designed only as 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.

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**16.4. The users'/employers' responsibility:**

- A risk assessment should be performed by the employer/user prior to use of this product.
- All recommendations included in this document, are advisory in nature.
- The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.

16.5. Comments:**16.5.1. Selected references**

- 16.5.1.1. Deshpande SS. Handbook of food toxicology. New York: Marcel Decker; 2002. Bongkreik toxins; pp. 661–662
- 16.5.1.2. <http://foodrisk.org/default/assets/File/IRAC-event-2002-07-24-Liu.pdf>
- 16.5.1.3. Appl Environ Microbiol. 1984 Oct; 48(4): 690–693.
- 16.5.1.4. <https://doi.org/10.4315/0362-028X.JFP-19-121>

16.5.2. Regarding naming:

The name FLAVOTOXIN A is regarded, in the most sources, as a synonym of Bongkreikic acid. For example, PUBCHEM., RTECS. Other sources think otherwise.

16.5.3. Regarding other suppliers.

Regretfully, certain other suppliers offer Bongkreikic acid as if it were a harmless substance.

16.6. Abbreviations and acronyms:

- 16.6.1. Acute Tox.: Acute toxicity
- 16.6.2. CAS: Chemical Abstracts Service (division of the American Chemical Society)
- 16.6.3. DOT: US Department of Transportation
- 16.6.4. EINECS: European Inventory of Existing Commercial Chemical Substances
- 16.6.5. Eye Dam.: Serious eye damage/eye irritation
- 16.6.6. HMIS: Hazardous Materials Identification System (USA)
- 16.6.7. IATA: International Air Transport Association
- 16.6.8. IMDG: International Maritime Code for Dangerous Goods
- 16.6.9. LC50: Lethal concentration, Median
- 16.6.10. LD50: Lethal dose, Median
- 16.6.11. NFPA: National Fire Protection Association (USA)
- 16.6.12. NIOSH: National Institute for Occupational Safety
- 16.6.13. OSHA: Occupational Safety & Health
- 16.6.14. PBT: Persistent, Bioaccumulative and Toxic
- 16.6.15. PEL: Permissible Exposure Limit
- 16.6.16. REL: Recommended Exposure Limit
- 16.6.17. Repr.: Reproductive toxicity
- 16.6.18. Skin Irrit: Skin corrosion/irritation
- 16.6.19. STOT RE: Specific target organ toxicity (repeated exposure)
- 16.6.20. TLV: Threshold Limit Value
- 16.6.21. vPvB: very Persistent and very Bioaccumulative



16.7.Excepted Quantity shipment codes explanation

According to Section 2.6 in IATA, Section 3.5 in the IMDG.

Code	Maximum Quantity (inner package)	Maximum Quantity per outer package
E1	30g / 30ml	1Kg / 1L
E2	30g / 30ml	500g / 500ml
E3	30g / 30ml	300g / 300ml
E4	1g / 1ml	500g / 500ml
E5	1g / 1ml	300g / 300ml

16.8.Copyright statement



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16.9.End of SDS
