Safety Data Sheet

FOURSTAR®

Section 1: Identification

Product identifier

Product Name • **FourStar® Briquets**

Synonyms • 100514285; 100514296; 100514297; EPA Reg. No.: 83362-3; FourStar® Briquets Sustained Release 45 Day Microbial Briquets; FourStar® Briquets Sustained Release 90 Day Microbial Briquets; FourStar® Briquets Sustained Release 180 Day Microbial Briquets; FourStar® Microbial Briquets

Chemical Category • Bacillus sphaericus strain 2362, Bacillus thuringiensis subsp. Israelensis Serotype H14

Product Description • Solid, light tan briquette.

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

Recommended use • Microbial insecticide effective against mosquitoes in a variety of habitats.

Restrictions on use • Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

Details of the supplier of the safety data sheet

Manufacturer • FourStar Microbial Products, LLC

1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States
www.centralmosquitocontrol.com

Emergency telephone number

Manufacturer • 1-888-914-2082

Manufacturer (Transportation) • 1-800-424-9300 - CHEMTREC

Manufacturer (Transportation) • 1-703-527-3887 - CHEMTREC - Outside US Collect Calls Accepted

Section 2: Hazard Identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Skin Sensitization 1 - H317

Label elements

OSHA HCS 2012

WARNING

Hazard statements • May cause an allergic skin reaction - H317

Precautionary statements

Prevention • Wear protective gloves/protective clothing/eye protection/face protection. - P280
Avoid breathing dust, fume, gas, mist, vapors and/or spray. - P261
Contaminated work clothing should not be allowed out of the workplace. - P272

Response • If on skin: Wash with plenty of water .
If skin irritation or rash occurs: Get medical advice/attention. - P333+P313
Specific treatment, see supplemental first aid information. - P321
Wash contaminated clothing before reuse. - P363

Storage/Disposal • Do not contaminate water, food or feed by storage or disposal
Store in a cool, dry place
Refer to Section 13 - Disposal Considerations

Other hazards

OSHA HCS 2012 • No data available

Section 3 - Composition/Information on Ingredients

Substances

• Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Mixtures

Composition			
Chemical Name	**Identifiers**	**%**	**Classifications According to Regulation/Directive**
Bacillus thuringiensis ssp. israelensis	**CAS:**68038-71-1	1%	**OSHA HCS 2012:** Acute Tox. Inhal. 4; Skin Sens. 1
Bacillus sphaericus	**CAS:**143447-72-7	6%	**OSHA HCS 2012:** Acute Tox. Inhal. 4; Skin Sens. 1
Proprietary	*Proprietary*	< 0.5%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	< 0.05%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	< 0.05%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	< 0.05%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	< 0.5%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	5% TO 15%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	< 0.5%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	0.05%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	0.05%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	60% TO 80%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	< 1%	**OSHA HCS 2012:** Carcinogen Cat. 2; STOT RE 1 - Resp.
Proprietary	*Proprietary*	1% TO 10%	**OSHA HCS 2012:** Not classified - criteria not met
Proprietary	*Proprietary*	5% TO 15%	**OSHA HCS 2012:** Not classified - criteria not met

Section 4: First-Aid Measures

Description of first aid measures

Inhalation
- Move victim to fresh air. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin
- Remove contaminated clothing and shoes. Rinse skin immediately with plenty of water for 15-20 minutes. Call a physician or poison control center.

Eye
- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a physician or poison control center.

Ingestion
- Get medical attention immediately if symptoms occur.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
- If medical advice is needed, have product container or label at hand.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media
- LARGE FIRE: Water spray, fog or regular foam.
  SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

Unsuitable Extinguishing Media
- No data available.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Material is non-combustible and is not expected to pose a fire or explosion hazard.

Hazardous Combustion Products
- No data available.

Advice for firefighters

- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Remove clothing and wash thoroughly before use.

Emergency Procedures
- Use normal clean up procedures.

Environmental precautions

- Follow best practice for site management and disposal of waste.

Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Use appropriate Personal Protective Equipment (PPE)
  Carefully shovel or sweep up spilled material and place in suitable container.

Section 7 - Handling and Storage

Precautions for safe handling

Handling
- Use good safety and industrial hygiene practices. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

Storage
- Store closed containers in a cool dry place. Do not contaminate water, food or feed by

storage or disposal.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Proprietary (Proprietary)	TWAs	Not established	Not established	2 mg/m3 TWA
	Ceilings	Not established	2 mg/m3 Ceiling	Not established
Proprietary (Proprietary)	TWAs	Not established	Not established	1000 ppm TWA; 1900 mg/m3 TWA
Proprietary (Proprietary)	TWAs	0.025 mg/m3 TWA (respirable fraction)	Not established	Not established
Proprietary (Proprietary)	TWAs	Not established	Not established	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

Exposure Control Notations

ACGIH

- Proprietary (Proprietary): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Proprietary (Proprietary): **Carcinogens:** (A2 - Suspected Human Carcinogen)

Exposure Limits Supplemental

OSHA

- Proprietary (Proprietary): **Mineral Dusts:** ((30)/(%SiO2 + 2) mg/m3 TWA, total dust; (250)/(%SiO2 + 5) mppcf TWA, respirable fraction; (10)/(% SiO2 + 2) mg/m3 TWA, respirable fraction)

ACGIH

- Proprietary (Proprietary): **TLV Basis - Critical Effects:** (upper respiratory tract irritation)
- Proprietary (Proprietary): **TLV Basis - Critical Effects:** (eye, skin and upper respiratory tract irritation)
- Proprietary (Proprietary): **TLV Basis - Critical Effects:** (lung cancer; pulmonary fibrosis)

Exposure controls

Engineering Measures/Controls
- No data available.

Personal Protective Equipment

Pictograms
-

Respiratory
- None specified.

Eye/Face
- Wear safety glasses.

Hands
- Wear appropriate gloves.

Skin/Body
- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

General Industrial Hygiene Considerations
- Wash thoroughly with soap and water after handling.

Environmental Exposure Controls
- Refer to Section 13 - Disposal Considerations.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Solid briquette.
Color	light tan.	Odor	No data available.
Taste	No data available	Particulate Type	No data available
Odor Threshold	No data available	Physical and Chemical Properties	No data available
General Properties			
Boiling Point	No data available	Melting Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	No data available	Bulk Density	0.82 g/cm³
Water Solubility	Soluble	Viscosity	Not relevant
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	Not Flammable.		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- Non-reactive

Chemical stability

- Stable

Possibility of hazardous reactions

- No data available.

Conditions to avoid

- No data available.

Incompatible materials

- No data available.

Hazardous decomposition products

- No data available.

Section 11 - Toxicological Information

Information on toxicological effects

Component Name	CAS	Data
Bacillus thuringiensis ssp. israelensis (1%)	68038-71-1	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 5000 mg/kg; Inhalation-Rat LC50 • 2.04 mg/L 4 Hour(s); Skin-Rabbit LD50 • 5000 mg/kg; **Irritation:** Eye-Rabbit • Mild irritation; Skin-Rabbit • Mild irritation
Bacillus sphaericus (6%)	143447-72-7	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >5000 mg/kg; Inhalation-Rat LC50 • >2.04 mg/L 4 Hour(s); Skin-Rabbit LD50 • >5000 mg/kg; **Irritation:** Eye-Rabbit • Mild irritation; Skin-Rabbit • Mild irritation

GHS Properties	Classification
Acute toxicity	**OSHA HCS 2012** • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral - Classification criteria not met
Aspiration Hazard	**OSHA HCS 2012** • Classification criteria not met
Carcinogenicity	**OSHA HCS 2012** • Classification criteria not met
Germ Cell Mutagenicity	**OSHA HCS 2012** • Classification criteria not met
Skin corrosion/Irritation	**OSHA HCS 2012** • Classification criteria not met
Skin sensitization	**OSHA HCS 2012** • Skin Sensitizer 1
STOT-RE	**OSHA HCS 2012** • Classification criteria not met
STOT-SE	**OSHA HCS 2012** • Classification criteria not met
Toxicity for Reproduction	**OSHA HCS 2012** • Classification criteria not met
Respiratory sensitization	**OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**OSHA HCS 2012** • Classification criteria not met

Route(s) of entry/exposure
- Inhalation, skin or eye contact, and ingestion.

Potential Health Effects

Inhalation

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- Exposure to respirable crystalline silica are not expected during normal use of this product.

Skin

Acute (Immediate)
- May cause mild irritation.

Chronic (Delayed)
- Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact if you are sensitized to Bacillus thuringiensis ssp. israelensis or Bacillus. sphaericus.

Eye

Acute (Immediate)
- May cause moderate irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available

Other

Chronic (Delayed)
- No data available.

Carcinogenic Effects
- No data available.

Carcinogenic Effects			
	CAS	IARC	NTP
Proprietary	Proprietary	Group 1-Carcinogenic	Evidence of Carcinogenicity
Proprietary	Proprietary	Not Listed	Evidence of Carcinogenicity
Proprietary	Proprietary	Group 1-Carcinogenic	Known Human Carcinogen

Section 12 - Ecological Information

Toxicity

- No data available

Persistence and degradability

- No data available.

Bioaccumulative potential

- No data available.

Mobility in Soil

- No data available.

Other adverse effects

Potential Environmental Effects

- Do not contaminate water when disposing or equipment washwaters or rinsate. Do not apply to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not contaminate water, food, or feed by storage or disposal.

Packaging waste

- Nonrefillable container. Do not reuse or refill empty carton or packaging material. Offer for recycling, if available or crush and discard carton in a sanitary landfill or by inceneration, or if allowed by state and local authorities, by burning. Do not breathe smoke if burned.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

Special precautions for user

- None specified.

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

- No data available

Other information

IMO/IMDG

- No data available

IATA/ICAO

- No data available

Section 15 - Regulatory Information

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

SARA Hazard Classifications

- Acute, Chronic

FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-

pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION

Hazard Statements

- Keep out of reach of children.

Precautionary Statements

Hazards to Humans and Domestic Animals

- Hazards to Humans and Domestic Animals - Caution: Harmful if inhaled. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

First Aid

- IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call poison control center or doctor for treatment advice.
  IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
  IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
  HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

Environmental Hazards

- Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.
- PESTICIDE STORAGE: Store in a cool, dry place. PESTICIDE DISPOSAL: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility. CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill empty carton or packaging material. Offer for recycling, if available or crush and discard carton in a sanitary landfill or by incineration or if allowed by state and local authorites, by burning. If burned, stay out of smoke.

Inventory		
Component	**CAS**	**TSCA**
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes
Bacillus sphaericus	143447-72-7	No
Bacillus thuringiensis ssp. israelensis	68038-71-1	Yes
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	No
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes
Proprietary	*Proprietary*	Yes

United States

Environment

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	5000 lb final RQ; 2270 kg final RQ
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	1000 lb final RQ; 454 kg final RQ
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• Bacillus thuringiensis ssp. israelensis	68038-71-1	Not Listed
• Bacillus sphaericus	143447-72-7	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	carcinogen, initial date 10/1/88 (airborne particles of respirable size)
• Bacillus thuringiensis ssp. israelensis	68038-71-1	Not Listed
• Bacillus sphaericus	143447-72-7	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• *Proprietary*	*Proprietary*	Not Listed
• Bacillus thuringiensis ssp. israelensis	68038-71-1	Not Listed
• Bacillus sphaericus	143447-72-7	Not Listed

Section 16 - Other Information

Last Revision Date	• 30/April/2014
Preparation Date	• 30/April/2014
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