Material Safety Data Sheet

Prepared at: 25th March 2019

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product name

Flameless Ration heater (FRH)

1.2 Relevant Identified uses of the substance or mixture and uses advised against

Meals Ready to Eat (MRE), General ready meal heating source

1.3 Manufacturer

Shenyang Heng Li Heater Factory in China

1.4 Manufacturer Agent

Bricor International Limited.

Contact number: +44 7786731530

Email: info@hotjoymeals.com

Website: www.hotjoymeals.com

2. Hazards Identification

2.1 Classification of the substance or mixture

CLP (Regulation (EC) No 1272/2008): GHS02, GHS07; Water-react, 2: H261, Eye Irritation 2: H319. Skin Irritation 2: H315

KIFS 2005:7: F, Xi: R15-36/38

2.2 Label Elements

Classification CLP (Regulation (EC) No 1272/2008)

Pictograms:

GHS02

GHS07

Signal word: Danger

Hazard statements:

H261 – In contact with water releases flammable gases

H315 – Causes skin irritation

H319 – Causes serious eye irritation

Precautionary statements:

P102 – Keep out of reach of children

P223 – Keep away from any possible contact with water, because of violent reaction and possible flash fire

P370 + P378 – In case of fire: Use dry sand or metal powder for extinction. Never use water

P280 – Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 – IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes, Remove contact lenses, if present and easy to do. Continue rinsing.

Contains: Aluminum (stabilized) and Sodium hydroxide and others

2.3 Other Hazards

3. Composition/Information on Ingredients

3.1 Mixtures

According to CLP (Regulation (EC) No 1272/2008)

Substance name	EG No.	Reg. No.	CAS No.	Concentration	Pictogram	H-phrases*	Category
Aluminum powder (stabilized)	231-072-3	01-211-9529243-45	7429-90-5	55-65%	GHS02 Danger	H261 H228	Water-react. 2 Flam.Sol.3
Sodium Carbonate	207-838-8	01-211-9485498-19	497-19-8	20-25%	GHS07 Warning	H319	Eye Irrit.2
Sodium Chloride	231-598-3	-	7647-14-5	5-10%	-	-	-
Sodium Hydroxide	215-185-5	01-211-9457892-27	1310-73-2	1.5-3%	GHS05 Danger	H314	Skin Corr.1A
Others	-	-	-	-	-	-	-

* For the full text of the H-Statements mentioned in this section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

Substance name	EG No.	CAS No.	Concentration	Symbol	R-phrases*
Aluminum powder (stabilized)	231-072-3	7429-90-5	55-65%	F	R11-15
Sodium carbonate	207-838-8	497-19-8	20-25%	Xi	R36
Sodium Chloride	231-598-3	7647-14-5	5-10%	-	-
Sodium hydroxide	215-185-5	1310-73-2	1.5-3%	C	R35
Others	-	-	-	-	-

* For the full text of the R-Statements mentioned in this section, see Section 16.

3.2 Other information:

The product contains about 35g of active chemicals which is sealed inside a solid plastic bag.

4. First Aid Measures

4.1 Description of First aid measures

Inhalation

Fresh air. Contact a doctor if the complaints persist.

Skin Contact

Take off all contaminated clothing/shoes. Carefully wash the skin for several minutes with soap and water. Contact a doctor if symptoms persist.

Eye Contact

Rinse with lukewarm water for 5 minutes. Keep eyelids well apart. Contact a doctor if symptoms persist.

Ingestion

Do not induce vomiting. Contact a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

The product is irritating in the eyes and on the skin. May give rise to headache, dizziness, bluntness, unconsciousness. Organ damage may arise after ingestion.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment after Ingestion:

Give two tablespoon magnesium sulphate with a glass of water. Repeat three times.

Give two tablespoon magnesium milk with a glass of water. Repeat after ten minutes.

Treatment after eye contact:

Treat symptomatically. 5% pontocaine (2-3 drops).

Emergency shower and eye wash facility in working area.

5. Fire-Fighting measures

5.1 Extinguishing Media

Sand, powder, carbon dioxide or alcohol resistant foam. Do not use water!!!

5.2 Special Hazards arising from the substance or mixture

Combustion or contact with water can emit extremely flammable gases. Danger of explosive dust.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Prevent fire extinguishing water from contaminating surface water or the ground water system. Remove container from danger zone and cool with water.

5.4 Prevention

No naked lights. No smoking. Do not allow water or moist air

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid substance contact. Avoid formation of dust. Do not inhale dust. Do not smoke. Protective equipment, see Section 8. Keep working area dry. Wipe up drops and splashes with a cloth.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Observe possible material restrictions (see Section 7 and 10).

Keep away from water. Sweep up collect spills for possible reuse or transfer to suitable waste containers. Absorb with sand, dry earth or vermiculite. Further handling of waste – see Section 13.

6.4 Reference to other sections

See Section 8 and 13 for information concerning protective equipment and waste treatment methods.

7. Handling and Storage

7.1 Precautions for safe handling

Operate in a well-ventilated area, atmospheric levels should be controlled in compliance with the exposure scenarios and occupational exposure limits. Wear protective equipment, see Section 8. Avoid contact with skin and eyes. Avoid inhalation of dust.

7.2 Conditions for safe storage including any incompatibilities

Store in a dry area in room temperature. Keep in tightly closed original packaging. Keep away from moisture,

sunlight and sources of ignition.

7.3 Specific end use(s)

See EWC-code under Section 13.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Occupational exposure limits (Directive 2000/39/EC)

DNEL

PNEC

8.2 Individual protection measures

Respiratory protection

Use particle filter type P2 in dusty conditions.

Hand protection

The protective gloves to be used must comply with the specification of EC Directive 89/686/EEC and the related standard EN374. Gloves of nitrile rubber recommended.

Eye/Face protective equipment

Use safety goggles when there is a risk of eye contact.

Other protective equipment

Use protective clothing to avoid skin contact.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. Emergency shower and eye wash facility in working area.

9. Physical and Chemical Properties

9.1 Information on fundamental physical and chemical properties

Form: Powder

Colour: Grey

Odour: Odourless

pH: Alkaline

solubility in water: Contact with water liberates extremely flammable gases

Physical state at 20℃: Solid

9.2 Other information

10. Stability and Reactivity

10.1 Reactivity

Contact with water liberates extremely flammable gases.

10.2 Chemical stability

The product is chemically stable under standard conditions.

10.3 Possibility of hazardous reactions

Contact with water liberates extremely flammable gases.

10.4 Conditions to avoid

Moisture, heat and sources of ignition

10.5 Incompatible materials

Water and acids

10.6 Hazardous decomposition products

Combustion can emit extremely flammable gases. Dust can constitute a danger for explosion

11. Toxicological Information

11.1 Information on toxicological effects

	Acute effects	Chronic effects
Skin contact	Irritating	-
Eye contact	Irritating	-
Inhalation	May be irritating	Long term exposure may cause pulmonary fibrosis
Ingestion	Irritating. Headache. Dizziness, bluntness Unconsciousness	Risk for organ damages

Acute toxicity

Toxicity for the components

Aluminum powder

Long term exposure impacts on the central nervous system

Sodium carbonate

LD50 Oral rat: 4090mg/kg body weight (non acute toxic)

Long term and repeated exposure may cause skin and respiratory tract irritation

Sodium hydroxide

Sodium hydroxide causes severe burns, which are slow-healing. Diluted solutions can also be corrosive. Fatal injuries are possible. Vision loss is possible by eye contact.

Irritation

Irritating on the skin and in the eyes

Corrosive effect

No corrosive effect known

Sensitization

Not known

Toxicity at repeated exposure

Not known

Cancerogenicity

Not known

Mutagenicity

Not known

Interactive effects

Not known

Absence of data

Toxicological data for the product is not available

12. Ecological Information

12.1 Toxicity

Not classified as hazardous to the environment

Ecotoxicity for ingredients

Aluminum:
Toxicity
LC50 Fish 96h: > 100mg/l (not ecotoxic)
EC50 Daphnia 48h: > 100mg/l (not ecotoxic)
IC50 Alger 72h: > 100mg/l (not ecotoxic)
Bioaccumulation
BCF: 18
Log Pow: < 3 (bioaccumulation is not expected)
Sodium carbonate:
Toxicity
LC50 Fish 96h: 1070mg/l Art: Cyprinus carpio (not ecotoxic)
EC50 Daphnia 48h: 265mg/l Art: Daphnia magna (not ecotoxic)
Bioaccumulation
Log Pow: 0 (bioaccumulation is not expected)
Sodium hydroxide:
Toxicity
LC50 Fish 96h: 45mg/l Art: Oncorhynchus mykiss (ecotoxic)
EC50 Dapnia 48h: 30mg/l (ecotoxic)
Bioaccumulation
Log Pow: < 0 (bioaccumulation is not expected)
12.2 Persistence and biodegradation
No information available
12.3 Bioaccumulative potential
No information available
12.4 Mobility in soil and water
In contact with water releases flammable gases
12.5 Results of PBT and vPvB assessment
No information available
12.6 Other adverse effects
Not known
Summary
No interference with waste water treatment plants are to be expected when used properly. Discharge into the environment must be avoided due to the products basicity.

13. Disposal Considerations

13.1 Disposal from excess/unused product
In accordance with Directive 2008/98/EC unused product is hazardous waste.
Suggestion of EWC-code:
20 municipal wastes (household waste and similar commercial industrial and institutional wastes) including separately collected fractions
20 01 separately collected fractions (except 15 01):
20 01 15 * Alkaline
Contaminated package
Should be recycled in accordance with local, state or national regulations.
After activation
It may waste into a normal bin

14. Transport Information

Classified as dangerous goods in accordance with ADR/IMDG/ICAO

14.1 UN number

UN2813

14.2 Proper shipping name

Water-reactive soild, N.O.S. (Mixture of Aluminum powder and others)

Tunnel restriction code: (D/E)

EmS: F-G S-N

14.3 Class

4.3

14.4 Packing group

II

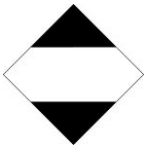
14.4.1 Excepted quantity

Not applicable

14.4.2 Limited quantity

In inner packaging up to 500g eligible to be prepared in accordance with Limited Quantity provisions of ADR (Road) – IMDG (Sea) – ICAO/IATA (Air)

The box should be marked as below;



14.5 Environmental risks

The product is alkaline

14.6 Special safety measures

Avoid contact with water

Transport in bulk according to Annex II of Marpol 73/78 and the IBC code

The product is not to be handled in bulk. The product is to be packed according to the IMDG regulations

15. Regulatory Information

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

CLP (Regulation (EC) No 1272/2008 and Regulation 453/2010/EC, Annex I)

16. Other Information

Classification according to DPD, 1999/45/EC:

R-Phrases

R15 – Contact with water liberates extremely flammable gases

R36/38 – Irritating to eyes and skin

S-Phrases

S2 – Keep out of the reach of children

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36/37/39 – Wear a suitable protective clothing, gloves and eye/face protection
S43 – In case of fire, use dry sand or metal powder. Never use water.

Other hazards (Labelling)

Contains Aluminum (stabilized) and Sodium hydroxide

Full text of R-Phrases referred to under Section 3

R11 – Highly flammable
R15 – Contact with water liberates extremely flammable gases
R35 – Causes severe burns
R36 – Irritating to eyes

Full text of H-Phrases referred to under Section 3

H261 – In contact with water releases flammable gases
H228 – Flammable solid
H314 – Causes severe skin burns and eyes damage
H319 – Causes serious eyes irritation

References to literature OCH databases

See Chemical Safety Assessment (CSA)

Revision

IMDG Code (amendment 37-14)
Version 1 (2013-10-05): Original document
Version 2 (2013-12-22): The content of the product has changed. All sections of the data sheet reworked because of this.
Version 3 (2014-11-29): Changes in Section 1. New company name, contact, telephone number and email

Other Information

This information is complementary.

DISCLAIMER OF LIABILITY:

This information, data and recommendations contained herein are believed to be correct at the time of writing. All materials and mixtures may present unknown hazards and should be used with caution. When necessary or appropriate, independent opinions regarding the risk of handling or exposure should be obtained from trained professionals. However, the user should independently decide whether the information is sufficient.

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