

SAFETY DATA SHEET

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

1.1 Product identifier

- Product Name: LIGHTWEIGHT GUN MIXES 2
- Product Part Number: KAST-O-LITE 30 LIG PLUS
GREENLITE 45LG
GREENLITE-45-L GR ON-LINE

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

- Use of the substance/mixture: Dry refractory castables
- Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: HarbisonWalker International Ltd
- Address of Supplier: Dock Road South,
Bromborough,
Wirral,
England
United Kingdom
CH62 4SP
- Telephone: +44 (0)151 641 5900
- Fax: +44 (0)151 641 5910
- Email: Saleseurope@thinkhwi.com

1.4 Emergency telephone number

- Emergency Telephone: +44 (0)151 641 5900 (Office hours 07:30 - 17:00)
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SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified

2.2 Label elements

- Signal Word: None
- Symbols: None
- Hazard phrases
None
- Precautionary Phrases
None

2.3 Other hazards

- Long term exposure to crystalline silica can cause silicosis
 - Prolonged handling can cause drying of the skin
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SECTION 3 Composition/information on ingredients

3.1 Substances

3.2 Mixtures

SECTION 3 Composition/information on ingredients (....)

- Crystalline silica may be present at typical concentrations of 1-2.5%, most of this is encapsulated in the coarse aggregate.
 - aluminium oxide
 - Concentration: 50-100%
 - CAS Number: 1344-28-1
 - EC Number: 215-691-6
 - Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified
 - Substance with a workplace exposure limit, see Section 8
 - mullite
 - Concentration: 50-100%
 - CAS Number: 1302-93-8
 - EC Number: 215-113-2
 - Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified
 - Substance with a workplace exposure limit, see Section 8
 - calcium aluminate cement
 - Concentration: 15-35%
 - CAS Number: 65997-16-2
 - EC Number: 266-045-5
 - Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified
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SECTION 4 First aid measures

4.1 Description of first aid measures

- Contact with eyes
 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - Irrigate eyes thoroughly whilst lifting eyelids
 - If eye irritation persists: Get medical advice/attention.
- Contact with skin
 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - If skin irritation occurs: Get medical advice/attention.
- Ingestion
 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 - Give plenty of water to drink
 - Get medical advice/attention if you feel unwell.
- Inhalation
 - If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

- The dry mixture may cause irritation to skin, eyes and the respiratory tract.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically
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SECTION 5 Fire-fighting measures

SECTION 5 Fire-fighting measures (....)

5.1 Extinguishing media

- Not flammable. In case of fire use extinguishing media appropriate to surrounding conditions

5.2 Special hazards arising from the substance or mixture

- Gives off irritating or toxic fumes (or gases) in a fire.
- Decomposition products may include aluminium oxide, silicon oxides

5.3 Advice for firefighters

- Collect contaminated fire extinguishing water separately. This **MUST** not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
 - Wear protective clothing as per section 8
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SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Wear protective clothing as per section 8
- Avoid contact with skin and eyes.
- Wash thoroughly after handling.
- Avoid formation of dust
- Eyewash bottles should be available

6.2 Environmental Precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Collect as much as possible in clean container for reuse or disposal
- Use vacuum cleaner to collect spilled material
- Place in appropriate container
- Seal containers and label them
- Remove contaminated material to safe location for subsequent disposal
- Wash thoroughly after dealing with spillage

6.4 Reference to other sections

- See Section 8 and 13
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SECTION 7 Handling and storage

7.1 Precautions for safe handling

- Avoid raising dust
- Avoid contact with skin and eyes
- Wash thoroughly after handling.
- Eyewash bottles should be available

7.2 Conditions for safe storage, including any incompatibilities

- Store in a dry place.
- Protect from frost
- Protect from heat
- Store on a pallet protected by shrink-wrapping

7.3 Specific end use(s)

- Dry refractory castables
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SECTION 8 Exposure controls/personal protection

8.1 Control parameters

- aluminium oxide
 - WEL (long term) (inhalable dust) 10 mg/m³ (UK)
 - WEL (long term) (respirable dust) 4 mg/m³ (UK)
 - WEL (long term) (inhalable dust) 4 mg/m³ (DFG)
 - WEL (long term) (respirable dust) 1.5 mg/m³ (DFG)
 - DNEL (oral) 6.2 mg/kg (bw/day)
 - DNEL (inhalational) 15.6 mg/m³ (short term)
- mullite
 - WEL (long term) 2 mg/m³ (UK)
- silica, respirable, crystalline
 - WEL (long term) 0.1 mg/m³ (UK)

8.2 Exposure controls

- Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines
- No respiratory protection is needed if ventilation/extraction is adequate, otherwise wear approved dust mask
- Use type FFP1 (EN 143) dust masks
- Keep working clothes separately and do not take them home
- Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
- The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
- Wear safety glasses approved to standard EN 166.
- Eyewash bottles should be available



Goggles



Gloves



Suit



Respirator



No Smoking

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Grey, brown, granules, powder
- Odour: No information available
- Odour threshold: No information available
- pH: 8-10 when mixed with water
- Melting point/freezing point: No information available
- Initial boiling point and boiling range: No information available
- Flashpoint: No information available
- Evaporation Rate: No information available
- Flammability (solid,gas): No information available
- Upper/lower flammability or explosive limits: No information available

SECTION 9 Physical and chemical properties (....)

- Vapour Pressure: No information available
- Vapour Density: No information available
- Relative Density: No information available
- Solubility(ies): Partially soluble in water
- Partition Coefficient (n-Octanol/Water): No information available
- Autoignition Temperature No information available
- Decomposition temperature: No information available
- Viscosity: No information available
- Explosive Properties: No information available
- Oxidising Properties: No information available

9.2 Other information

- No information available
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SECTION 10 Stability and reactivity

10.1 Reactivity

- No information available

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- No hazardous reactions known if used for its intended purpose

10.4 Conditions to avoid

- Avoid extremes of temperature

10.5 Incompatible materials

- Incompatible with halogenated substances
- Incompatible with acid

10.6 Hazardous Decomposition Products

- Decomposition products may include aluminium oxide, silicon oxides
 - Refractories containing crystalline silica may, after service, contain more or less crystalline silica. Care must be taken to avoid and/or control dust from demolition. If in doubt of the proper protection, seek advice from a safety professional.
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SECTION 11 Toxicological information

11.1 Information on toxicological effects

Acute Toxicity

- No experimental test data available for the mixture
- Based on available data, the classification criteria are not met

Skin corrosion/irritation

- No experimental test data available for the mixture
- Based on available data, the classification criteria are not met

Serious eye damage/irritation

- No experimental test data available for the mixture
- Based on available data, the classification criteria are not met

Respiratory or skin sensitisation

- No information available

Germ cell mutagenicity

- No evidence of mutagenic effects

Carcinogenicity

SECTION 11 Toxicological information (....)

- No evidence of carcinogenic effects
 - Reproductive toxicity
 - No evidence of reproductive effects
 - Specific target organ toxicity (STOT) - single exposure
 - Based on available data, the classification criteria are not met
 - Specific target organ toxicity (STOT) - repeated exposure
 - Long term exposure to crystalline silica can cause silicosis
 - Aspiration hazard
 - No information available
 - Contact with eyes
 - May cause irritation
 - Contact with skin
 - May cause skin irritation
 - Prolonged handling can cause drying of the skin
 - Inhalation
 - Dust may cause respiratory irritation.
 - Ingestion
 - May cause irritation of the throat
 - May cause gastro-intestinal irritation
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SECTION 12 Ecological information

12.1 Toxicity

- No experimental test data available for the mixture
- On available data, substance is not harmful to aquatic life

12.2 Persistence and degradability

- Not readily biodegradable

12.3 Bioaccumulation Potential

- No information available

12.4 Mobility in soil

- Partly miscible with water

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other Adverse Effects

- No information available
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SECTION 13 Disposal considerations

13.1 Waste treatment methods

- Disposal should be in accordance with local, state or national legislation
- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- Uncontaminated material may be returnable. Contact supplier

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Waste Codes in accordance with the European Waste catalogue (EWC) are origin-defined. Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.

SECTION 14 Transport information

Not classified as hazardous for transport

14.1 UN Number

- UN No.: Not applicable

14.2 UN Proper Shipping Name

- Proper Shipping Name: Not applicable

14.3 Transport hazard class(es)

- Hazard Class: Not applicable

14.4 Packing group

- Packing Group: Not applicable

14.5 Environmental hazards

- No information available

14.6 Special precautions for user

- No information available

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

- Not applicable

14.8 Road/Rail (ADR/RID)

- Proper Shipping Name: Not applicable
- ADR UN No.: Not applicable
- ADR Hazard Class: Not applicable
- ADR Packing Group: Not applicable
- Tunnel Code: Not applicable

14.9 Sea (IMDG)

- Proper Shipping Name: Not applicable
- IMDG UN No.: Not applicable
- IMDG Hazard Class: Not applicable
- IMDG Pack Group.: Not applicable

14.10 Air (ICAO/IATA)

- Proper Shipping Name: Not applicable
 - ICAO UN No.: Not applicable
 - ICAO Hazard Class: Not applicable
 - ICAO Packing Group: Not applicable
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SECTION 15 Regulatory information

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

- This Safety Data Sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830

15.2 Chemical Safety Assessment

- A REACH chemical safety assessment has not been carried out
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SECTION 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

SECTION 16 Other information (....)

Version 2.0.0. Revised September 2015. Revised to add new logo and company name and other minor amendments to layout.

Product Data

Ref:282/25/06/15

Description: 1370°C Insulating Gunning Castable.

- Features:
- Hydraulically bonded and exhibits an excellent strength to density ratio.
 - Designed to set quickly.
 - Can be dried out rapidly, dryout may be started immediately after the material has set.
 - Excellent gunning characteristics.

- Uses:
- Fluid catalytic cracking units.
 - Fluid coking units.
 - Other industrial linings requiring good strength and insulating properties.

Chemical Analysis: Approximate (Calcined Basis)

Silica - SiO ₂	47.2%
Alumina - Al ₂ O ₃	36.4%
Titania - TiO ₂	1.7%
Iron Oxide - Fe ₂ O ₃	1.7%
Lime - CaO	11.5%
Magnesia - MgO	0.4%
Alkalies - Na ₂ O + K ₂ O	1.1%

Physical Properties

	Gunned
Maximum Recommended Temperature	1370°C
Quantity Required	1230 Kgs/m ³
Bulk Density	Kgs/m ³
After Heating at 105°C	1280 - 1440
After Heating at 815°C	1150 - 1300
Modulus of Rupture - ASTM C113 and C 865	MPa
After Heating at 105°C	5.5
After Heating at 815°C	2.8
Cold Crushing Strength - ASTM C113 and C865	MPa
After Heating at 105°C	11.7 - 18.6
After Heating at 815°C	10.3 - 17.2
Permanent Linear Change - ASTM C113 and C865	
After Heating at 105°C	None
After Heating at 815°C	0.0 - 0.3% Shr
After Heating at 1315°C	1.0% Shr
Thermal Conductivity (at the mean temperature of)	W/mK
205°C	0.57
425°C	0.44
650°C	0.42
870°C	0.44
Shelf Life (Under Proper Storage Conditions)	365 days

Note: The test data shown are based on average results of control tests and are subject to normal variation on individual tests. These results cannot be taken as maximum or minimum requirements for specification purposes.

MSDS, Installation Guidelines and Dry Out Schedules are also available.