

Olivine

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

1.1 Product Identifier

Product name: Olivine
Product description: Magnesium Iron Silicate
Product type: Aggregate, Sand, Powder, Flour.

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

Product use: Refractory raw material, abrasive, grit blasting sand.
Area of application: Industrial application

1.3 Details of the supplier of the safety data sheet

Minelco Ltd, Flixborough Industrial Estate, Flixborough, North Lincolnshire, DN15 8EF (UK)

Email address of person: tony.hutton@minelco.com (Tony Hutton is responsible for this SDS)

1.4 Emergency telephone number of supplier

Telephone number: Phone +44 (0) 1724 277411 or Fax +44 (0) 1724 866405
Hours of Operation: Office hours

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Substance

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Classification: Not classified

Ingredients of unknown toxicity: Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 100%

Ingredients of unknown exotoxicity: Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 100%

Classification according to Directive 1999/45/EC (DPD)

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification: Not classified

See section 16 for the full text of the R phrases or H statements declared above.

See section 11 for more detailed information on health effects and symptoms.

2.2 Label Elements

Hazard pictograms: Not applicable
Signal word: No signal word
Hazard statements: No known significant effects or critical hazards

Precautionary statements

Prevention: Not applicable
Response: Not applicable
Storage: Not applicable
Disposal: Not applicable
Hazardous ingredients: Not applicable
Supplemental label elements: Not applicable

2.3 Other hazards

Other hazards which do not result in classification:

Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

SECTION 3: Composition/information on ingredients

Substance/mixture:

Substance

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Olivine	EC : 215-281-7 CAS : 1317-71-1	100%	Not classified	Not classified	[*]
Forsterite	EC : 239-169-2 CAS : 15118-03-3	93%	Not classified	Not classified	[A]
Fayalite	EC : 237-687-3 CAS : 13918-37-1	7%	Not classified	Not classified	[A]

Type

[*] Substance

[A] Constituent

[B] Impurity

[C] Stabilizing additive

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact:

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for any remove any contact lenses. Get medical attention if irritation occurs.

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact:

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion:

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Ger medical attention if symptoms occur.

Protection of first-aiders:

No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact:

Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation:

Expose to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Skin contact:

No known significant effects or critical hazards.

Ingestion:

No known significant effects or critical hazards.

Over-exposure signs /symptoms

Eye contact:

Adverse symptoms may include the following: irritation / redness

Inhalation:

Adverse symptoms may include the following: respiratory tract irritation / coughing

SECTION 4: First aid measures (continued)

Skin contact:	No specific data
Ingestion:	No specific data

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician:	Treat symptomatically
Specific treatments:	No specific treatment

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Use an extinguishing agent suitable for the surrounding fire
Unsuitable extinguishing media:	None known

5.2 Special hazards arising from the substance or mixture

Hazards from the substance/mixture:	No specific hazard
Hazardous combustion products:	Decomposition products may include the following materials: Carbon Dioxide / Carbon Monoxide / Metal Oxide(s).

5.3 Advice for fire-fighters

Special precautions for fire-fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action should be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk.
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Special protective equipment for fire-fighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing dust. Put on appropriate personal protective equipment. No smoking.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in section 8 on suitable and unsuitable materials. See also information in "for non-emergency personnel".

6.2 Environmental precautions:

Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways or air).

6.3 Special hazards arising from the substance or mixture

Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large spill: Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed

SECTION 6: Accidental release measures (continued)

waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

6.4 References to other sections:

See section 1 for emergency contact information.
See section 8 for information on appropriate personal protective equipment.
See section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of identified uses in section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures:

Put on appropriate personal protective equipment (see section 8). Avoid breathing dust. Avoid creating dusty conditions and prevent wind dispersal. Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before eating areas. See also section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage including any incompatibilities:

Store in accordance with local regulations. Store in segregated and approved area. Store in original container and protect from direct sunlight in a dry, cool and well ventilated area away from incompatible materials (see section 10) and food and drink. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations: Not available
Industrial sector specific solutions: Not available

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Precautions for safe handling

Occupational exposure limits

Product / ingredient name	Exposure limit values
Olivine	EH40/2005 WELs (United Kingdom (UK)). TWA: 4mg/m ³ 8hours. Form: respirable dust TWA: 10 mg/m ³ 8 hours. Form: total dust

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to

SECTION 8: Exposure controls/personal protection (continued)

determine the effectiveness of the ventilation or other control measures and/or necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Desired effect levels: No DELs available

Predicted effect concentrations: No PECs available

8.2 Exposure controls

Appropriate engineering controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye / face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicated this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicated this is necessary.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air feed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	Solid (powder, granular particles or aggregate)
Colour:	Pale Green
Grain shape:	Sub-angular
Odour:	Odourless
Odour threshold:	Not applicable
pH:	8.9 – 9.5
Melting point/freezing point:	1400 – 1700°C
Initial boiling point and range:	Not applicable
Flash point:	Not applicable
Evaporation rate:	Not applicable
Flammability (solid gas):	Not applicable
Burning time:	Not applicable
Burning rate:	Not applicable
Upper/lower flammability or explosive limits:	Not applicable
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	3.3 g/cm ³
Solubility (ies):	Negligible
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not applicable
Viscosity:	Not applicable
Explosive properties:	Not applicable
Oxidising properties:	None

9.2 Other information:

Angle of repose:	Approx. 45°
Stowage Factor:	0.54m ³

SECTION 10: Stability and reactivity

10.1 Reactivity:	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability:	The product is stable.
10.3 Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid:	Avoid creating dusty conditions and prevent wind dispersal
10.5 Incompatible materials:	Not applicable
10.6 Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Conclusion/Summary: Not available

Acute toxicity estimates: Not available

Irritation/Corrosion

Conclusion/Summary

Skin: May cause skin irritation

SECTION 11: Toxicological information (Continued)

Eyes:	May cause eye irritation
<u>Sensitiser</u>	
Conclusion/Summary:	
Skin:	No known significant effects or critical hazards
Respiratory:	No known significant effects or critical hazards
<u>Mutagenicity</u>	
Conclusion/Summary:	No known significant effects or critical hazards
<u>Carcinogenicity</u>	
Conclusion/Summary:	No known significant effects or critical hazards
<u>Resproductive toxicity</u>	
Conclusion/Summary:	No known significant effects or critical hazards
<u>Teratogenicity</u>	
Conclusion/Summary:	No known significant effects or critical hazards
<u>Specific target organ toxicity (single exposure)</u>	Not available
<u>Specific target organ toxicity (single exposure)</u>	Not available
<u>Aspiration hazard</u>	Not available
<u>Information on likely routes of exposure</u>	Not available
<u>Potential acute health effects</u>	
Inhalation:	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Ingestion:	No known significant effects or critical hazards
Skin contact:	No known significant effects or critical hazards
Eye contact:	No known significant effects or critical hazards
<u>Symptoms related to the physical, chemical and toxicological characteristics</u>	
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation / coughing
Ingestion:	No specific data
Skin contact:	No specific data
Eye contact:	Adverse symptoms may include the following: irritation / redness
<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u>	
<u>Short term exposure</u>	
Potential immediate effects:	Not available
Potential delayed effects:	Not available
<u>Long term exposure</u>	
Potential immediate effects:	Not available
Potential delayed effects:	Not available
<u>Potential chronic health effects:</u>	Not available
Conclusion/Summary:	No known significant effects or critical hazards
General:	Prolonged and/or excessive exposure to respirable dust may cause mucous membrane and respiratory irritation and lung injury with symptoms of shortness of breath and reduced pulmonary function. Inhalation of dust may cause irritation of nose, throat and respiratory passages. Eye contact may cause mechanical irritation and possible injury.
Carcinogenicity:	No known significant effects or critical hazards
Mutagenicity:	No known significant effects or critical hazards

SECTION 11: Toxicological information (Continued 2)

Teratogenicity: No known significant effects or critical hazards
Developmental effects: No known significant effects or critical hazards
Fertility effects: No known significant effects or critical hazards

Other information: Not available

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary: No known significant effects or critical hazards

12.2 Persistence and degradability

Conclusion/Summary: Not readily biodegradable

12.3 Bioaccumulative potential

Product/ingredient name	LogP _w	BCF	Potential
Olivine	-	-	-

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}): Not available

Mobility: Not available

12.5 Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

12.6 Other adverse effects: No known significant effects or critical hazards

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC

Packaging

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration of landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No	No	No	No
14.6 Special precautions for user	Not available	Not available	Not available	Not available
Additional information	-	-	-	-

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: Not available

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV – List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances mixtures and articles: Not applicable

Other EU Regulations

Europe inventory: All components are listed or exempt

Black List Chemicals: Not listed

Priority List Chemicals: Not listed

Integrated pollution prevention and control list (IPPC) – Air: Not listed

Integrated pollution prevention and control list (IPPC) – Water: Not listed

International regulations

Chemical Weapons: Not listed

Convention List Schedule I Chemicals

Chemical Weapons: Not listed

Convention List Schedule II Chemicals

Chemical Weapons: Not listed

Convention List Schedule III Chemicals

15.2 Chemical Safety Assessment: Not applicable

15.3 Registration status: Not applicable

SECTION 16: Other information

Olivine sand is produced from the rock dunite. In the rock small amounts of fibrous minerals can be found, first of all in the mineral group of inosilicates such as pyroxenes, amphiboles and other fibres, which share some similarities with asbestos fibres. Each imported shipment of Olivine is tested in accordance with the Health and Safety Executive's HSG248 by an approved laboratory to ensure that the quantity and types of fibre found in the material do not present a significant risk to health.

 Indicates information that has changed from previously issued version.

Abbreviations and acronyms:

ATE=	Acute Toxicity Estimate
CLP=	Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL=	Derived No Effect Level

Conforms to Regulation (EC_ No. 1907/2006 (REACH), Annex II – United Kingdom (UK)

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SECTION 16: Other information (continued)

EUH statement=CLP-specific Hazard statement
 PNEC= Predicted No Effect Concentration
 RRN= REACH Registration Number

Key literature references and sources for data:

Workplace Exposure Limits – 2005. HSE EH40/2005
 Workplace Exposure Limits – Supplement 2007. HSE EH40/2005
 EC Commission Directive 2001/58/EC
 EC Commission Regulation 1907/2006 and amendment EC 987/2008

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified	

Full text of abbreviated H statements: Not applicable
Full text of classifications [CLP/GHS]: Not applicable
Full text of abbreviated R phrases: Not applicable
Full text of classifications [DSD/DPD]: Not applicable
Training advice: Training should be given to employees, in how to handle the material without generating dust or spillages.
Date of issue / date of revision: 5th August 2011
Date of previous issue: 19th July 2011
Version: 2

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However neither the above named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.