SAFETY DATA SHEET



1. Identification

Product identifier Clarion Sandstone (Shale)

Other means of identification

Synonyms Mud Rock, Rock Shale, Clarion Sandstone, Shale

Recommended use Construction.

Recommended restrictions Workers (and your customers or users in the case of resale) should be informed of the potential

> presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required

under applicable regulations. Uses other than the recommended use.

Manufacturer/Importer/Supplier/Distributor information

Company Name Amrize Inc.

8700 W Bryn Mawr Ave, Suite 300 **Address**

Chicago, IL 60631

Telephone (773) 372-1000 Website www.amrize.com E-mail sdsinfo@amrize.com

Emergency Telephone

Number

CHEMTREC within USA and Canada: 1-800-424-9300

CHEMTREC outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. Hazard(s) identification

Not classified. Physical hazards

Health hazards Skin corrosion/irritation Category 1A

> Serious eye damage/eye irritation Category 1 Carcinogenicity (inhalation) Category 1A Category 2 (Lungs)

Specific target organ toxicity, repeated

exposure (inhalation)

OSHA defined hazards Not classified.

Label elements





Signal word Danger

Hazard statement Causes severe skin burns and eve damage. May cause cancer by inhalation. May cause damage

to organs (Lungs) through prolonged or repeated exposure by inhalation.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read

and understood. Do not breathe dust. Wash thoroughly after handling. Wear protective

gloves/protective clothing/eye protection/face protection.

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all Response

contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison

center/doctor. Wash contaminated clothing before reuse.

Store locked up. **Storage**

Dispose of contents/container in accordance with local/regional/national/international regulations. Disposal

Hazard(s) not otherwise

classified (HNOC)

None known.

Supplemental information None.

Clarion Sandstone (Shale) SDS US

971839 Version #: 01 Revision date: -Issue date: 13-May-2025

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Quartz	14808-60-7	≤ 60
Silicon dioxide, crystalline silica-free	7631-86-9	≤ 60
Aluminium Oxide	1344-28-1	10 - 15
Calcium oxide	1305-78-8	2 - 6
Magnesium Oxide	1309-48-4	2 - 6
Potassium oxide	12136-45-7	2 - 6
Phosphoric pentoxide	1314-56-3	≤ 1
Sodium oxide	1313-59-3	≤ 1

Composition comments

All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits. Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. First-aid measures

Inhalation

Move to fresh air. If not breathing, give artificial respiration. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Unsuitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed. Combustion products may include: Corrosive vapors. Calcium oxides. Carbon oxides. Aluminum oxides. Iron oxides. Magnesium oxides. Potassium oxides. Silicon oxides. Sulfur oxides.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods
General fire hazards

Use standard firefighting procedures and consider the hazards of other involved materials.

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Small Spills: Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

U.S OSHA Components	Туре	Value	
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)	TWA	80 mg/m3	
US. OSHA Specifically Regulated St	•	•	
Components	Туре	Value	
Quartz (CAS 14808-60-7)	TWA	0.05 mg/m3	
US. OSHA Table Z-1 Permissible Ex Components	posure Limits (PEL) for Air (Type	Contaminants (29 CFR 1910.1 Value	000) Form
Aluminium Oxide (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Calcium oxide (CAS 1305-78-8)	PEL	5 mg/m3	
Magnesium Oxide (CAS 1309-48-4)	PEL	15 mg/m3	Total particulate.
US. OSHA Table Z-3 Permissible Ex Components	posure Limits (PEL) for Min Type	eral Dusts (29 CFR 1910.1000 Value) Form
Aluminium Oxide (CAS 1344-28-1)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Magnesium Oxide (CAS 1309-48-4)	TWA	5 mg/m3	Respirable fraction.
,		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Quartz (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		20 mppcf	

Components	Туре	Value	Form	
Aluminium Oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.	
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3		
Magnesium Oxide (CAS 1309-48-4)	TWA	10 mg/m3	Inhalable fraction.	
Quartz (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.	
NIOSH. Immediately Dange Components	rous to Life or Health (IDLH) Values Type	s, as amended Value		
Calcium oxide (CAS 1305-78-8)	IDLH	25 mg/m3		
Magnesium Oxide (CAS 1309-48-4)	IDLH	750 mg/m3		
Quartz (CAS 14808-60-7)	IDLH	50 mg/m3		
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)	IDLH	3000 mg/m3		
US. NIOSH: Pocket Guide t Components	o Chemical Hazards Type	Value	Form	
Calcium oxide (CAS 1305-78-8)	TWA	2 mg/m3		
Quartz (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.	
Silicon dioxide, crystalline silica-free (CAS 7631-86-9)	TWA	6 mg/m3		
logical limit values	No biological exposure limits noted	for the ingredient(s).		
osure guidelines		Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.		
oropriate engineering trols	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.			
•	, such as personal protective equip			
Eye/face protection	Wear chemical goggles and face sh	nield.		
Skin protection Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.			
Skin protection Other	Wear appropriate chemical resistan	nt clothing. Use of an impervious	apron is recommended.	
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.			
Thermal hazards	Wear appropriate thermal protective	Wear appropriate thermal protective clothing, when necessary.		
neral hygiene siderations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.			

9. Physical and chemical properties

Appearance

Physical state Solid.
Form Solid.

Color Gray to black. Gray to white.

Odor Odorless.

Odor threshold Not applicable.

pH 6-8

pH concentration
 Melting point/freezing point
 Initial boiling point and boiling
 Property has not been measured.
 Property has not been measured.
 Not applicable, material is a solid.

range

Flash point

Not applicable, material is a solid.

Evaporation rate

Not applicable, material is a solid.

Flammability (solid, gas)

The product is non-combustible.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not applicable, material is a solid.

Explosive limit - upper (%) Not applicable, material is a solid.

Vapor pressure Not applicable, material is a solid.

Vapor pressure temp. Property has not been measured.

Vapor density Not applicable, material is a solid.

Relative density 1.3 - 1.4

Relative density temperature Property has not been measured.

Solubility(ies)

Solubility (water) Slightly soluble

Partition coefficient (n-octanol/water)

Not applicable for inorganic substances.

Auto-ignition temperature

Decomposition temperature

Viscosity

Not applicable, material is a solid.

Property has not been measured.

Not applicable, material is a solid.

Other information

Density Property has not been measured.

Explosive properties Not explosive.

Kinematic viscosity Not applicable, material is a solid.

Oxidizing properties Not oxidizing.

Particle size Property has not been measured.

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoidContact with incompatible materials.

Incompatible materials Acids. Powerful oxidizers. Chlorine. Fluorine. Phosphorus. Water. Hydrofluoric acid.

Hazardous decomposition No hazardous decomposition products are known. In the event of fire: See Section 5.

products

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause damage to organs through prolonged or repeated exposure by inhalation. May cause

cancer by inhalation. May cause irritation to the respiratory system.

Skin contact Causes severe skin burns.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns. May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including

blindness could result. Coughing. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Clarion Sandstone (Shale)

Acute toxicity May be harmful if swallowed.

Components Species Test Results

Aluminium Oxide (CAS 1344-28-1)

Acute Inhalation

LC50 Rat > 2.3 mg/l, 4 Hours

Calcium oxide (CAS 1305-78-8)

Acute Oral

LD50 Rat > 2000 mg/kg No deaths occured at this

concentration.

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Phosphoric pentoxide (CAS 1314-56-3)

Acute Inhalation

LC50 Rat 1217 mg/m³, 1 Hours

Potassium oxide (CAS 12136-45-7)

Acute Oral

Dust

LD50 Rat 273 mg/kg

Quartz (CAS 14808-60-7)

Chronic Inhalation

LOEC Human 0.0563 mg/m3

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

Acute Dermal

LD50 Rabbit > 5000 mg/kg, 24 Hours

Inhalation

Dust

LC50 Rat > 0.14 mg/l, 4 Hours

Oral

LD50 Rat > 3300 mg/kg

Skin corrosion/irritationCauses severe skin burns.Serious eye damage/eyeCauses serious eye damage.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer by inhalation. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (CAS 14808-60-7) 1 Carcinogenic to humans.

Silicon dioxide, crystalline silica-free (CAS 7631-86-9) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Quartz (CAS 14808-60-7) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Quartz (CAS 14808-60-7) Cancel

Reproductive toxicityThis product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

May cause damage to organs (Lungs) through prolonged or repeated exposure by inhalation.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. May cause damage to organs through prolonged or

repeated exposure. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components Species Test Results

Potassium oxide (CAS 12136-45-7)

Aquatic Acute

Fish LC50 Mosquitofish (Gambusia affinis affinis) 80 mg/l, 96 hours

Persistence and degradability

The product contains inorganic compounds which are not biodegradable.

Bioaccumulative potential

No data available.

Mobility in soil

The product is insoluble or slightly soluble in water. Not expected to be mobile in soil.

Other adverse effects No data available.

13. Disposal considerations

Disposal instructionsCollect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of

contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Clarion Sandstone (Shale) SDS US

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14. Transport information

DOT

UN number UN1759

UN proper shipping name Corrosive solids, n.o.s. (Potassium oxide, Sodium oxide)

Transport hazard class(es)

Class 8
Subsidiary hazard Label(s) 8
Packing group II
Environmental hazards

Marine pollutant No.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions 128, IB8, IP2, IP4, T3, TP33

Packaging exceptions 154
Packaging non bulk 212
Packaging bulk 240

IATA

UN number UN1759

UN proper shipping name Corrosive solid, n.o.s. (Potassium oxide, Sodium oxide)

Transport hazard class(es)

Class 8
Subsidiary hazard Packing group II
Environmental hazards No.
ERG Code 8L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1759

UN proper shipping name CORROSIVE SOLID, N.O.S. (Potassium oxide, Sodium oxide)

Transport hazard class(es)

Class 8
Subsidiary hazard Packing group || Environmental hazards

Marine pollutant No. EmS F-A, S-B

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to

Annex II of MARPOL 73/78 and

the IBC Code

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Quartz (CAS 14808-60-7) Cancer

lung effects

immune system effects

kidney effects

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated

"active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

chemical

Classified hazard Skin corrosion or irritation Serious eye damage or eye irritation

Yes

Carcinogenicity

Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical nameCAS number% by wt.Aluminium Oxide1344-28-110 - 15

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

(SDWA)

US state regulations

US. Massachusetts RTK - Substance List

Aluminium Oxide (CAS 1344-28-1)

Calcium oxide (CAS 1305-78-8)

Magnesium Oxide (CAS 1309-48-4)

Phosphoric pentoxide (CAS 1314-56-3)

Quartz (CAS 14808-60-7)

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

US. New Jersey Worker and Community Right-to-Know Act

Aluminium Oxide (CAS 1344-28-1)

Calcium oxide (CAS 1305-78-8)

Magnesium Oxide (CAS 1309-48-4)

Phosphoric pentoxide (CAS 1314-56-3)

Potassium oxide (CAS 12136-45-7)

Quartz (CAS 14808-60-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Aluminium Oxide (CAS 1344-28-1)

Calcium oxide (CAS 1305-78-8)

Magnesium Oxide (CAS 1309-48-4)

Phosphoric pentoxide (CAS 1314-56-3)

Quartz (CAS 14808-60-7)

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

US. Rhode Island RTK

Aluminium Oxide (CAS 1344-28-1)

Calcium oxide (CAS 1305-78-8)

Magnesium Oxide (CAS 1309-48-4)

Quartz (CAS 14808-60-7)

Silicon dioxide, crystalline silica-free (CAS 7631-86-9)

California Proposition 65



WARNING: This product can expose you to Quartz, which is known to the State of California to cause cancer.

For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Quartz (CAS 14808-60-7) Listed: October 1, 1988

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region Inventory name On inventory (yes/no)* China Inventory of Existing Chemical Substances in China (IECSC) Inventory of Existing and New Chemical Substances (ENCS) Japan Yes Korea Existing Chemicals List (ECL) Yes New Zealand New Zealand Inventory Yes **Philippines** Philippine Inventory of Chemicals and Chemical Substances Yes

(PICCS)

TaiwanTaiwan Chemical Substance Inventory (TCSI)YesUnited States & Puerto RicoToxic Substances Control Act (TSCA) InventoryYes

16. Other information, including date of preparation or last revision

Issue date 13-May-2025

Revision date - 01

HMIS® ratings Health: 3*

Flammability: 0 Physical hazard: 0

Disclaimer Amrize Inc. cannot anticipate all conditions under which this information and its product, or the

products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the

sheet was written based on the best knowledge and experience currently available.

^{*}A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).