

Material Safety Data Sheet Autoclaved Aerated Concrete

SECTION 1. Identification


Product identifier	Litecon Autoclaved Aerated Concrete (AAC)
Other identifications	Litecon Cladding Panels, Litecon Firewall Panels, Litecon Floor Panels, Litecon Floor Panels Max, Litecon Reinforced Wall Panels, Litecon Blocks.
Recommended Use	Building material, noise suppression, fire protection
Supplier	Litecon Corp
Address	18911 Hardy Oak Blvd Suite 190 San Antonio Texas 78258
Email	info@liteconusa.com
Telephone	210-605-7052
Web Site	https://liteconusa.com
Emergency Phone Number	210-668-4545


SECTION 2. Hazards Identification

Statement of Hazardous Nature	The autoclaved aerated concrete products as supplied are non-hazardous.
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When autoclaved aerated concrete products are cut, sawed, drilled or sanded, dust created which contain crystalline silica, some of which may be respirable, and which would be classifiable as hazardous according to EPA.

The following GHS classifications refer only to the respirable crystalline silica portion of uncontrolled dust generation when the product is installed. **After the installation the product don't release any dust.**

GHS Classification		GHS Signal Word	GHS Pictogram	GHS Hazard statements	GHS Precautionary statements
Skin Irritation	Category 2	Warning		H315 - Causes skin irritation	P264 - Wash hands and arms thoroughly after handling. P280 - Wear protective gloves. P302 + P352 - If on skin, wash with plenty of water. P332 + P317 - If skin irritation persists, get medical help.
Eye Irritation	Category 2A			H319 - Causes eye irritation	P264 - Wash eyes thoroughly after handling. P280 - Wear eye/face protection and protective gloves. P305 + P351 + P338 - If in eyes, rinse cautiously with water for several minutes. P337 + P317 - If eye irritation persists, get medical help.
Specific Target Organ Toxicity (Single Exposure)	Category 3			H335 - May cause respiratory irritation	P261 - Avoid breathing dust. P304 + P340 - If inhaled, remove person to fresh air and keep comfortable for breathing. P319 - Get medical help if you feel unwell.

GHS Classification	GHS Signal Word	GHS Pictogram	GHS Hazard statements	GHS Precautionary statements
Specific Target Organ Toxicity (Repeated Exposure)	Category 2	Warning		H373 - May cause damage to organs through prolonged or repeated exposure by inhalation. P260 - Do not breathe dust. P271 - Use only outdoors or in a well-ventilated area. P284 - In case of inadequate ventilation wear respiratory protection. P362 + P364 - Take off contaminated clothing and wash it before reuse. P403 + P233 - Store in a well-ventilated place and keep container tightly closed.

Autoclaved Aerated Concrete is classified as Non-Dangerous Goods.

SECTION 3. Composition / Information on Ingredients

Chemical Name	Symbol	Proportion	CAS Number
Calcium oxide	CaO	18 – 36 %	1305-78-8
Quartz	SiO ₂	32 – 58 %	14808-60-7
Alumina	Al ₂ O ₃	2 – 4 %	1344-28-1
Iron oxide	Fe ₂ O ₃	1 – 2 %	1309-37-1
Magnesium oxide	MgO	1 – 2 %	1309-48-4
Additives	-----	< 5 %	-----

SECTION 4. First Aid Measures

The following measures refer only to the dust created when the product is installed by cutting, sawed, crushed or sanded. After installation the product does not release any dust.

Skin Contact	Remove contaminated clothing, wash affected areas with soap and water or shower if necessary. If irritation persists, seek medical attention.
Eye Contact	Rinse cautiously with water for several minutes while holding eyelids open. Seek medical attention if eye irritation or redness persists.
Inhalation	Remove from exposure to fresh air. Seek medical attention if severe coughing or breathing difficult occurs.
Ingestion	Rinse mouth with water. Do not induce vomiting. If the symptoms persist, get medical help.

SECTION 5. Fire Fighting Measures

The supplied Autoclaved Aerated Concrete is Non-combustible.

Suitable extinguishing media	Use an extinguisher suitable for adjacent flammable materials.
Specific Hazards.	None
Special protective actions for fire fighters	Take protective actions according to adjacent flammable materials.

SECTION 6. Accidental Release Measures

Personal precautions.	The installer can avoid dust generation if a wet saw is used to cut the product.
Protective equipment.	Personal protection should be followed during clean up activities if conditions are dusty (see section 8).
Emergency procedures.	See section 8.
Environmental precautions	None required.
Methods and material for containment and cleaning up	When possible, moisten the area before sweeping or cleaning. The safest method to clean is to use a vacuum to avoid making dust airborne.

SECTION 7. Handling and Storage

Precautions for safe handling	AAC products are heavy and could cause crushing injuries. The handling should be in accordance with manual handling codes and regulations.
Conditions for safe Storage	No special requirements. The stockpiles control should be according to safety risk assessment.
Incompatibilities	None.

SECTION 8. Exposure Controls / Personal Protection

The following advises refer only to the dust created when the product is installed by cutting, sawed, crushed, or sanded. After installation the product does not release any dust.

Control parameters.

Chemical Name	CAS Number	Permissible exposure (mg/m ³)	Source
Calcium oxide	1305-78-8	5	OSHA PELS
Quartz	14808-60-7	0.05	OSHA PELS
Alumina	1344-28-1	5	OSHA PELS
Iron oxide	1309-37-1	5	NIOSH REL
Magnesium oxide	1309-48-4	15	OSHA PELS

Biological limit values	No biological limit allocated.
Appropriate engineering controls	Maintain air dust concentrations below occupational exposure standards, using engineering controls if necessary. Work with open external openings such doors and windows, generally provide adequate ventilation.
Individual protection measures	<p>Eyes: Wear tight-fitting non-fogging goggles, to protect eyes when cutting or drilling AAC panels or blocks. These must comply with ANSI Z87.1-2010 recommended practices for occupational eye protection.</p> <p>Breathing: If working in well-ventilated open spaces, with low quantities of dust generation, the use of a personal respirator is not necessary. If these conditions cannot be achieved, a respirator should be used. In case of high dust concentration, use cartridge respirators according to OSHA 1926.1153. NIOSH recommends the use of half-facepiece</p>

	<p>particulate respirators with N95 or better filters for airborne exposures to crystalline silica at concentrations less than or equal to 0.5 mg/m³. The Occupational Safety and Health Administration (OSHA) also specifies the use of at least a 95-rated filter efficiency [29 Code of Federal Regulations (CFR) 1910.134].</p> <p>Skin protection: Wear protective clothing such as long sleeve shirts and trousers.</p> <p>Personal Hygiene: Regularly clean personal protective equipment and wash hands before eating, drinking, or using toilet. Wash work clothes regularly.</p>
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SECTION 9. Physical and Chemical Properties

Physical state	Solid off-white panels or blocks.
Color	Off-white
Odor	None
Melting point/freezing point	Not applicable
Boiling point	Not applicable
Flammability	Non-flammable material
Flammability limits	Not applicable
Flash Point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not determined
PH	8-11
Kinematic viscosity	Not applicable
Solubility	Not soluble
Partition coefficient: n-octanol / water	Not applicable
Vapor Pressure	Not applicable
Density	Not applicable
Relative vapor density	Not applicable
Particle characteristics	Not applicable

SECTION 10. Stability and Reactivity

Reactivity	None
Chemical Stability	Stable
Possibility of hazardous reactions	None
Conditions to Avoid	Dust generation during transport, storage and installing.
Incompatible Materials	None
Hazardous Decomposition Products	None

SECTION 11. Toxicological Information

The following advises refer only to the dust created when the product is installed by cutting, sawed, crushed, or sanded. After the installation the product does not release any dust.

Health Effects: Short term

Acute toxicity	No specific acute toxicity data available.
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Skin irritation	Touch the material with bare skin, particularly in association with sweat and heat, may cause irritation. The dust is not absorbed through the skin.
Eye irritation	Dust contact in eyes may cause effects ranging from moderate watering to serious redness. Exposure to dust may aggravate preexisting eyes conditions.
Respiratory or skin sensitization	Does not meet the criteria for classification.
Germ cell mutagenicity	Does not meet the criteria for classification.
Carcinogenicity	See long term health effects.
Reproductive toxicity	No specific data is available.
STOT-single exposure	Does not meet the criteria for classification.
STOT-repeated exposure	See long term health effects.
Aspiration hazard	Not an aspiration hazard

Health Effects: Long term

Skin irritation	Repeated heavy contact with dust may cause drying of the skin and can result in dermatitis, typically affecting the hands.
Eye irritation	Dust may cause irritation and inflammation of the eyes and aggravate pre-existing eye conditions.
Carcinogenicity	<p>Prolonged exposure to respirable free crystalline silica outside parameters established in the standard OSHA 1926.1153 may cause lung disease, silicosis, lung cancer, tuberculosis, kidney disease and non-malignant respiratory diseases.</p> <p>SILICOSIS The major concern is silicosis, caused by the inhalation of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute. Chronic or Ordinary Silicosis is the most common form of silicosis and can occur after many years (10 to 20 or more) of prolonged repeated inhalation of relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Complicated silicosis or PMF symptoms, if present, are shortness of breath and cough. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale). Accelerated Silicosis can occur with prolonged repeated inhalation of high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier, and progression is more rapid. Acute Silicosis can occur after the repeated inhalation of very high concentrations of respirable crystalline silica over a short period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, weakness, and weight loss. Acute silicosis is fatal.</p> <p>CANCER IARC - The International Agency for Research on Cancer ("IARC") concluded that "crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1)". For further information on the IARC evaluation, see IARC</p>

Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 100C, "A Review of Human Carcinogens: Arsenic, Metals, Fibers and Dusts" (2011).

AUTOIMMUNE DISEASES

Several studies have reported excess cases of several autoimmune disorders, scleroderma, systemic lupus erythematosus, rheumatoid arthritis -- among silica-exposed workers.

TUBERCULOSIS

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to tuberculosis bacteria. Individuals with chronic silicosis have a three-fold higher risk of contracting tuberculosis than similar individuals without silicosis.

KIDNEY DISEASE

Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).

NON-MALIGNANT RESPIRATORY DISEASES

The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema, and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).

Sources of information:

The NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica published in April 2002 summarizes and discusses the medical and epidemiological literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica. The NIOSH Hazard Review is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or through the NIOSH web site, www.cdc.gov/niosh/topics/silica, then click on the link "NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica".

SECTION 12. Ecological Information

Toxicity	AAC panels and blocks have low ecotoxicity and are not regarded as posing any ecological risk, are mildly alkaline, with pH in the range 8 to 11. Non-toxic to living organisms.
Persistence and degradability	Autoclaved Aerated Concrete products are persistence and not biodegradable.
Bio accumulative potential	There is no data to evidence bioaccumulation on AAC panels and blocks
Mobility in soil	Data are not available
Other adverse effects	Data are not available

SECTION 13. Disposal Considerations

Autoclaved Aerated Concrete scrap can be treated as a common waste for disposal or dumped into a landfill site. Always dispose in accordance with all applicable local, state/county, and national/ federal regulations considering the contamination present. Local regulations may be more strict than regional and national requirements. Crushed product and dust should be kept out of storm water and sewer drains. Measures should be taken to prevent dust generation during disposal and personal precautions should be observed (see Section 8 above).

SECTION 14. Transport Information

Autoclaved Aerated Concrete is classified as Non-Dangerous Goods.

UN Number	None allocated
UN Proper Shipping Name	None allocated
Transport hazard class	None
Packing Group	None
Environmental hazards	None
Special precautions for user	None
Transport in bulk according to IMO instruments	Not applicable.

SECTION 15. Regulatory Information

Safety, health, and environmental regulations specific for the product	See previous sections for risks dust inhalation.
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SECTION 16. Other Information

First version	June 2020
Last revision	April 2023 in compliance with GHS requirements
Review and update	Every three years
Key references	GHS ninth edition California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs) National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs).

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