



SAFETY DATA SHEET

SECTION 1 — IDENTIFICATION

Product Identifier

Product Name AQUACORE™
Product Code 1024

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

Recommended use Water soluble material for forming molds and cores.

Details of the supplier of the safety data sheet

Manufacturer Advanced Ceramics Manufacturing, LLC.
7800 South Nogales Highway
Tucson, AZ 85756
Telephone (General) 520.547.0850

Emergency Telephone Number

800.554.9964 - Hazardous Materials Support Center
800.424.9300 - CHEMTREC (Spill related emergencies)

SECTION 2 — HAZARD(S) IDENTIFICATION

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 AquaCore™ has no known hazardous properties.
Skin Irritation 2 - H315
The formula is proprietary information and is the property of Advanced Ceramics Manufacturing.

Label Components

The product does not require a danger label.

Other Dangers

OSHA HCS 2012



Eye Contact – Direct contact may cause irritation.

Skin Contact – Direct contact may cause irritation.

Inhalation – When machining in the cured state, repeated exposure to dust may cause delayed lung injury.

Ingestion – Direct contact may cause irritation.

Signs & Symptoms of Exposure to Airborne Dust – May result in cough, dyspnea, wheezing, or impaired pulmonary functions.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Mixture (water-soluble core material)

Mixtures The product does not contain substances classified as dangerous in accordance to OSHA 29 CFR 1910.1200 HCS.

Materials:

	Identifiers	WT%	TLV (mg/m ³)	PEL (mg/m ³)
Water Soluble Binder		1%-30%	NE	NE
Ceramic Microspheres	66402-68-4	10%-90%	10 (I) / 3 (R)	15 (T) / 5 (R)
	(T) - Total	(R) - Respirable	(I) - Inhalable	(NE) - Not Established

SECTION 4 — FIRST-AID MEASURES

Contact with Eyes Flush eyes with running water for 15 minutes — lift upper and lower eyelids.

Contact with Skin Wash skin thoroughly with mild soap and water.

Inhalation Move the injured person to fresh air. If not breathing, initiate pulmonary resuscitation. Get medical attention.

Ingestion Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

Refer to section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Refer to section 4.

SECTION 5 — FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media	Use fire nature appropriate extinguishing media. For example: foam, carbon dioxide, extinguishing powder
Unsuitable Extinguishing Media	Avoid the use of streaming water, as this may spread the fire.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards	The product is not flammable.
Advice for Firefighters	Always wear full fire prevention gear: hardhat with visor, fireproof clothing, work gloves and a respirator.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Ensure an adequate ventilation
Emergency Procedures	Ensure an adequate ventilation

Environmental Precautions

No specific requirement

Methods and material for containment and cleaning up

Containment/Clean-up Measures	Take up by mechanical means and pour it into a container properly labeled. Dispose of in accordance with local and national legislation.
-------------------------------	--

SECTION 7 — HANDLING AND STORAGE

Precautions to be taken in Handling and Storing

Handling	Keep container closed to avoid dry out.
----------	---

Conditions for safe storage, including any incompatibilities

Storage	Store in tightly closed containers in a dry, cool and well-ventilated place. Keep away from sources of heat, sparks and flame.
---------	--

Specific End Use

Not indicated.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

PNOS	TLV-TWA _{ACGIH} = No exposure limit value known. TLV-TWA _{ACGIH} = No exposure limit value known.
------	--

Exposure Control

Engineering Measures/Controls

Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable exposure limit values

Personal Protective Equipment Pictograms



Respiratory Protection	Use of a Class NIOSH N95 respirator where dust is generated is recommended. Follow the OSHA respirator regulations found in 29 CFR 1910.134.
Eye Protection	Chemical resistant safety glasses or goggles as a minimum.
Skin Protection	Rubber gloves should be worn to prevent excessive or repeated skin contact.
Other Clothing & Equipment	Work clothing or coveralls to minimize skin contact.
General Industrial Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Do not eat, drink or smoke during use. Keep away from food and feedstuffs. Do not breathe dust. Avoid creating dust.
Ventilation	Maintain positive ventilation.
Environmental Exposure Controls	Follow best practice for site management and disposal of waste.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Information on Physical and Chemical Properties

Appearance:	white solid
Smell:	no detectable odor
Odor threshold:	not available
pH:	not available
Melting point / freezing point:	not available
Initial boiling point and boiling range:	not available
Flash point:	noncombustible
Evaporation rate:	not available
Flammability (solid, gas):	not available
Upper / lower flammability or explosive limits:	not available
Vapor pressure:	not available

Vapor density:	not available
Relative density:	0.57 g/cc
Solubility:	soluble in water
Partition coefficient n-octanol/water:	not available
Auto-ignition temperature:	not applicable
Decomposition temperature:	not available
Viscosity:	not applicable
Explosive properties:	not applicable
Oxidising properties:	not applicable

SECTION 10 — STABILITY AND REACTIVITY

Reactivity	The product is not reactive under normal conditions of use and storage. When heated to decomposition oxides of sulfur will be released.
Chemical stability	The product is stable under normal conditions of use and storage.
Possibility of hazardous reactions	Refer to Reactivity
Conditions to avoid	Not known
Incompatible materials	Not known
Hazardous decomposition products	Not known
TSCA Listing	All ingredients are on the TSCA inventory, or exempt.

SECTION 11 — TOXICOLOGY INFORMATION

Information on toxicological effects	No toxicological effects acute and / or chronic known as a result of exposure to the product. Contact with eyes may cause mechanical irritation. The frequent and prolonged contact with skin may cause irritation and defatting.
--------------------------------------	---

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity	No effect eco-toxicological acute and / or chronic known as a result of exposure to the product.
Persistence and degradability	Information not available.
Bioaccumulative potential	Information not available.
Mobility in Soil	Information not available.
Other adverse effects	Information not available.
Other Information	Information not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods	Disposal must be made according to national or local law. These provisions shall also apply to contaminated containers. It is therefore recommended to make contact with the authorities in charge or approved specialist companies that can give you guidance on how to prepare for disposal. Appropriate disposal could be combustion, recycling, disposal site.
-------------------------	--

SECTION 14 - TRANSPORT INFORMATION

	The product is not classified as dangerous according to the provisions of existing legislation on the transport of dangerous goods by road (ADR) and by Rail (RID), by sea (IMDG Code) and by air (IATA).
UN Number	Not applicable.
UN Proper shipping name	Not applicable.
Transport hazard class(es)	Not applicable.
Packing group	Not applicable.
Environmental hazards	Not applicable.
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15 - REGULATORY INFORMATION

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

- OSHA 29 CFR 1910.1200 HCS - Consolidated Safety at the workplace
- OSHA 29 CFR 1910.120 HCS - Hazardous Waste Operations and Emergency Response

SECTION 16 — OTHER INFORMATION

Last Revision Date	11/15/2017
Preparation Date	11/15/2017
Key literature references and sources for data:	<ul style="list-style-type: none"> • 29 CFR 1910.1200(f) and Appendix C of 29 CFR 1910.1200 (and subsequent amendments and adjustments) • OSHA GHS (and subsequent amendments and adjustments) • OSHA Hazard Communication Standard (HCS) (and subsequent amendments and adjustments) • 1910 Subpart G - Occupational Health and Environmental Control (and subsequent amendments and adjustments) • Safety data sheet of the supplier of the product

Acronyms:

ACGIH:	American Conference of Governmental Industrial Hygienists
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS:	Chemical Abstracts Service
CFR:	Code of Federal Regulations
CLP:	Classification, Labeling and Packaging
EINECS:	European Inventory of Existing Chemical Substances
GHS:	Globally Harmonized System
HCS:	Hazard Communication Standard
IATA:	International Air Transport Association
IMDG Code:	International Maritime Code for Dangerous Goods
OSHA:	Occupational Safety and Health Administration
PBT:	Persistent, Bioaccumulative, Toxic
PEL:	Permissible Exposure Limit
PNOS:	Particles Not Otherwise Specified
REACH:	Registration, Evaluation, Authorization and Restriction of Chemicals
RID:	Regulation on the Inland transport of Dangerous goods by rail
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act
TWA:	Time-Weighted Average
vPvB:	very Persistent, very Bioaccumulative
Disclaimer/Statement of Liability	The information contained herein is believed to be accurate. However, it is provided solely for the customer's consideration, investigation and verification. Advanced Ceramics Manufacturing hereby specifically disclaims any and all warranties, express or implied, regarding the accuracy and completeness of such information, and makes no representations with respect thereto.