



Safety Data Sheet

Transport Symbol(s)	WHMIS	NFPA	Personal Protective Equipment
Not controlled	Not controlled		

Original Preparation Date: February 1, 2023

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name:
Umaco Universal 1023 Retarder

Contact Manufacturer:
Umaco, Inc.

60-Rear Newhall Street
Lpwell, MA 01852
Telephone Number: 978-453-8881

Use of the Substance / Preparation:
Additive for cement based mix/ Industrial use

Emergency response telephone number:
Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview		
Warning. May form combustible dust concentrations in air (during processing and handling). Product dust may cause mild, mechanical irritation. Health injuries are not known or expected under normal use.		
Appearance Colorless to White	Physical State Powder / Crystalline Granules	Odor Odorless

Classification according to 29 CFR 1910, amended to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS):	
OSHA Defined Hazard(s)	Combustible Dust

OSHA / GHS Label Elements	
Signal Word:	Warning
Hazard Statement(s):	May form combustible dust concentrations in air.

Up to 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
Up to 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
Up to 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation Substance
Chemical Family Esters
Molecular Formula Na₃C₆H₅O₇ · 2H₂O

Non-hazardous Components			
Chemical Name	CAS-No	Weight %	North American Hazard Indicator
Citrate, sodium, dihydrate	6132-04-3	100	None known.

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids.

Skin Contact Wash off with warm water and soap.

Inhalation Move to fresh air.

Ingestion Clean mouth with water and afterwards drink plenty of water.

General Advice When symptoms persist or in all cases of doubt seek medical advice.

Most important symptoms and affects, both acute and delayed

Eyes Contact with eyes may cause mechanical irritation.

Skin Product dust may cause mild, mechanical irritation.

Inhalation Dust may cause irritation of respiratory tract. See section 8 of this sheet for exposure limits pertaining to nuisance dust or "particulates not otherwise regulated".

Ingestion Health injuries are not known or expected under normal use.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Special forms of treatment and immediate medical attention are not specified. Treat Symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties

As with most organic solids, combustion is possible at elevated temperatures or by contact with an ignition source. Fine dust dispersed in air may ignite. Risk of ignition followed by flame propagation or secondary explosions should be prevented by avoiding accumulation of dust, e.g. on floors and ledges.

Extinguishing media

Suitable Extinguishing Media Water. Carbon dioxide (CO₂). Foam. Dry powder. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Special hazards arising from the substance or mixture

Hazardous Combustion Products Carbon monoxide (CO), Carbon dioxide (CO₂).

Specific Hazards Arising from the Chemical None known.

Sensitivity to mechanical impact No information available.

Sensitivity to static discharge Yes. (as dust).

Advice for fire-fighters

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health 0
Flammability 1

Stability and Reactivity 0
Physical hazard None known



6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Ensure adequate ventilation. Avoid dust formation. Avoid sparks, flames, static electricity discharges, etc. in the presence of dust.

Environmental Precautions

Prevent further leakage or spillage if safe to do so.

Methods for Containment

Keep in suitable, closed containers for disposal.

Methods and Materials for Containment and Cleaning Up

Shovel or sweep up. Avoid dust formation. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling

Ensure adequate ventilation. Avoid dust formation in confined areas. Fine dust dispersed in air may ignite. Refer to NFPA 61, "Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities".

Storage

Keep in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Where there is airborne dust, exposure limits pertaining to 'particulates not otherwise regulated' have been given

Chemical Name	ACGIH TLV	OSHA PEL	Mexico	NIOSH
Particulates not otherwise regulated	TWA: 10 mg/m ³ inhalable particles, recommended TWA: 3 mg/m ³ respirable particles, recommended	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction	not listed	not listed

Appropriate Engineering Controls

Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment

Eye/face Protection.

Safety glasses with side-shields. If airborne dust concentrations are excessive, wear goggles.

Skin and Body Protection

Protective clothing and gloves may be worn to reduce the potential of mechanical irritation. Appropriate body protection should be selected based on activity and possible exposure.

Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless to White
Physical State	Powder / Crystalline Granules
Odor	Odorless
Odor Threshold	No information available
pH	approx 8.0
Flash Point	Not applicable (solid)
Autoignition Temperature	No information available
Boiling point	Not applicable
Melting/Freezing Point	Decomposes before melting
Decomposition temperature	No information available
Oxidizing Properties	No information available
Flammability Limits in Air	No information available
Explosion Limits	No information available
Water Solubility	(approx. 42%)
Solubility(ies)	Insoluble in: Alcohol.
Evaporation Rate	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Viscosity (kinematic) Partition Coefficient	Not applicable
(n-octanol/water)	No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Conditions to Avoid Avoid dust formation.

Incompatible Materials No materials to be especially mentioned.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity	Based on available data, no evidence of acute toxicity.			
Chemical Name	Weight %	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citrate, sodium, dihydrate	100	5400 mg/kg bw (mouse)	>2000 mg/kg bw (rat)	
Skin corrosion/irritation	Based on available data, not, or only slightly irritating.			
Serious eye damage/eye irritation	Based on available data, no evidence of serious eye damage / irritation.			
Respiratory or skin sensitisation	Based on available data, not expected to be a skin or respiratory sensitiser.			
Germ cell mutagenicity	Based on available data, the classification criteria are not met.			
Carcinogenicity	Based on available data, no evidence of carcinogenicity. There are no known carcinogenic chemicals in this product.			
Reproductive toxicity	Based on available data, no evidence of reproductive toxicity			
STOT - single exposure	No evidence of toxicity.			
STOT - repeated exposure	No evidence of toxicity.			
Aspiration hazard	Based on available data, no known aspiration hazard.			

Potential health effects

Eyes

Contact with eyes may cause mechanical irritation.

Skin

Product dust may cause mild, mechanical irritation.

Inhalation

Dust may cause irritation of respiratory tract. See section 8 of this sheet for exposure limits pertaining to nuisance dust or "particulates not otherwise regulated".

Ingestion

Health injuries are not known or expected under normal use.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains no substances known to be hazardous to the environment. Contains no substances known to be not degradable in waste water treatment plants.

Chemical Name	Fresh Water Algae	Acute Fish Toxicity	Daphnia (Water flea)	Effects on micro-organisms	Other
Citrate, sodium, dihydrate		LC50 (48h) 440 mg/l (Leuciscus idus)(nominal)	LC50 (24h) 1535 mg/l (Daphnia magna)	EC50: 8h >18000-32000 mg/L (Pseudomonas fluorescens)	

13. DISPOSAL CONSIDERATIONS

Whenever possible, as rules and regulations allow, please recycle or manage materials to minimize waste.

Waste Disposal Methods

Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction. Can be landfilled or incinerated, when in compliance with local regulations.

Contaminated Packaging

Empty containers should be decontaminated and taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

Domestic transport regulations (USA)

DOT Not regulated

Domestic transport regulations (Canada)

TDG Not regulated

Domestic transport regulations (Mexico)

MEX Not regulated

International transport regulations

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	AICS	ENCS ISHL	CHINA	PICCS	KECL	NZIoC
Citrate, sodium, dihydrate	Yes CAS: 68-04-2	Yes CAS: 68-04-2	No	Yes 200-675-3 CAS: 68-04-2	No	Yes	Yes (2)-1323	Yes	Yes	Yes KE-20843 CAS: 68-04-2	Yes

USA

Federal Regulations

Ozone Depleting Substances:

No Class I or Class II material is known to be used in the manufacture of, or contained in, this product.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 372.

CERCLA/SARA 103-302

Sections 103-302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 103-302.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 63)

This product is not known to contain any HAPS.

State Regulations

State Right-to-Know

No known components subject to "Right-To-Know" legislation.

Canada

WHMIS Product Classification

Not a WHMIS controlled product.

WHMIS Ingredient Disclosure List IDL

No known component is listed on the WHMIS ingredients disclosure list.

(NPRI) Canadian National Pollutant Release Inventory

No known component is listed on NPRI.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

Mexico

Mexico - Grade

Slight risk, Grade 1

16. OTHER INFORMATION

Prepared By: Umaco, Inc.
Original Preparation: February 1, 2023

Abbreviations and acronyms

ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Values
AICS - Australian Inventory of Chemical Substances (Australia)
CAS - Chemical Abstract Service
CHINA - Chinese Inventory of Existing Chemical Substances (China)
DOT - U.S. Department of Transportation
DSL - Domestic Substance List (Canada)
EC50 - Half maximal effective concentration
EINECS - European Inventory of Existing Commercial Chemical Substances (EU)
ELINCS - European List of Notified Chemical Substances (EU)
ENCS - Existing and New Chemical Substances (Japan) / ISHL - Industrial Health and Safety Law (Japan)
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
IATA - International Air Transport Association Dangerous Goods Regulations
ICAO - International Civil Aviation Organisation
IMDG - International Maritime Dangerous Goods Code
IMO - International Maritime Organization
KECL - Korean Existing and Evaluated Chemical Substances (Korea)
LC50 - Lethal concentration that produces fatalities in 50% of a given test population
LD50 - Median lethal dose of a given test population
MEX - NOM-002-SCT/2003 List of Hazardous Substances and Materials Most Commonly Transported
MEXICO - Mexico Occupational Exposure Limits
NFPA - National Fire Protection Association
NDSL - Non Domestic Substances List (Canada)
NIOSH - National Institute of Occupational Safety and Health
NZIoC - New Zealand Inventory of Chemicals (New Zealand)
OSHA - Occupational Safety & Health Administration
OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limits
PICCS - Inventory of Chemicals and Chemical Substances (Philippines)
STOT - Specific Target Organ Toxicity
TDG - Transportation of Dangerous Goods (Transport Canada)
TSCA - Toxic Substances Control Act, Section 8(b) Inventory (USA)
TWA - Time Weighted Average: Average concentration that should not be exceeded during a work day (usually 8-hours)
WHMIS - Workplace Hazardous Materials Information System

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of sheet