Safety Data Sheet

Issue Date: 08-Sep-2022 **Revision Date:** 20-Sep-2022 **Version** 1

1. IDENTIFICATION

Product identifier

Product Name PALM-jet Mg™

Other means of identification

SDS # ARBOR-015

Product Code 1-Liter 030-4130, 1-Liter Case of 4 030-4135

UN/ID No UN3082

Recommended use of the chemical and restrictions on use

Recommended Use Fertilizer.

Details of the supplier of the safety data sheet

Supplier Address

Arborjet, Inc.
99 Blueberry Hill Road
Woburn, MA 01801
Phone: 1-781-935-9070
www.arborjet.com

Emergency telephone number

Emergency Telephone VelocityEHS 1-800-255-3924

2. HAZARDS IDENTIFICATION

Appearance Green liquid **Physical state** Liquid **Odor** Sweetish

Classification

Serious eye damage/eye irritation	Category 1

Signal Word

Danger

Hazard statements

Causes serious eye damage

Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

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 or doctor/physician

Other hazards

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Zinc sulfate	7733-02-0	≥1-<3

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

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

Skin Contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so be medical personnel. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide (CO2). Dry chemical. Water spray (fog).

Unsuitable Extinguishing Media None known.

Specific Hazards Arising from the Chemical
In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Nitrogen oxides (NOx). Sulfur oxides. Phosphorus oxides. Metal oxides. Carbon monoxide. Carbon dioxide (CO2).

Protective equipment and precautions for firefighters
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For Emergency Responders If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Small Spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spill: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Put on appropriate personal protective equipment (see Section 8). 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 entering eating areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

Incompatible Materials Strong acids. Alkaline materials. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Good general ventilation should be sufficient to control worker exposure to airborne contaminants. 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.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: safety glasses with side-shields.

Skin and Body Protection Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. 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. 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, particulate filter 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.

General Hygiene Considerations Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Green liquid	**Odor**	Sweetish
Color	Green	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	3.3	
Melting point / freezing point	No data available	
Initial boiling point and boiling range	82.2 °C / 180 °F	
Flash point	No data available	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-Not applicable	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor Pressure	Not determined	

Property	Values	Remarks • Method
Vapor Density	No data available	
Relative Density	Not determined	
Water Solubility	Easily soluble in cold water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	No data available	
Hyphen	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Strong acids. Alkaline materials. Strong oxidizing agents.

Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Do not ingest.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc sulfate 7733-02-0	= 1710 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Urea 57-13-6	= 8471 mg/kg (Rat)	-	-

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Serious eye damage/eye irritation Causes serious eye damage.

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 47,426.30 mg/kg

Dermal LD50 66,733.30 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Zinc sulfate 7733-02-0	0.056: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	0.162: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.03 - 0.05: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.34 - 0.93: 96 h Oncorhynchus mykiss mg/L LC50 static 0.218 - 0.42: 96 h Pimephales promelas mg/L LC50 flow-through 0.06: 96 h Pimephales promelas mg/L LC50 static 0.23 - 0.48: 96 h Pimephales promelas mg/L LC50 0.168 - 0.25: 96 h Pimephales promelas mg/L LC50 semi-static 0.15: 96 h Cyprinus carpio mg/L LC50 semi-static 16.85 - 27.18: 96 h Cyprinus carpio mg/L LC50 static 3 - 4.6: 96 h Lepomis macrochirus mg/L LC50 flow-through 3.55 - 6.32: 96 h Lepomis macrochirus mg/L LC50 static 0.63: 96 h Poecilia reticulata mg/L LC50 49.23 - 64.16: 96 h Poecilia reticulata mg/L LC50 semi-static 0.48 - 1.72: 96 h Poecilia reticulata mg/L LC50 static	0.75: 48 h Daphnia magna mg/L EC50 0.538 - 0.908: 48 h Daphnia magna mg/L EC50 Static
Urea 57-13-6		16200 - 18300: 96 h Poecilia reticulata mg/L LC50	3910: 48 h Daphnia magna mg/L EC50 Static

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Not determined

Other adverse effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical name	California Hazardous Waste Status
Zinc sulfate 7733-02-0	Toxic

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Product is not regulated when shipped in quantities under the reportable quantity (RQ)

UN/ID No UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s. (Zinc Sulfate)
Transport hazard class(es) 9
Packing Group III
Reportable Quantity (RQ) Zinc sulfate (1000 lbs)

IATA

UN number or ID number UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s. (Zinc Sulfate)
Transport hazard class(es) 9
Packing group III
Description This material ships as a marine pollutant when inner packagings exceed 5L/5KG

IMDG

UN number or ID number UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s. (Zinc Sulfate)
Transport hazard class(es) 9
Packing Group III
Marine Pollutant This material ships as a marine pollutant when inner packagings exceed 5L/5KG

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AIIC
Zinc sulfate	X	ACTIVE	X	X	X	X	X	X	X
Urea	X	ACTIVE	X	X	X	X	X	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Zinc sulfate 7733-02-0	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 313

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Zinc sulfate - 7733-02-0	7733-02-0	≥1-<3	1.0

CWA (Clean Water Act)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc sulfate	1000 lb	X		X

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Zinc sulfate 7733-02-0	X	X	X

16. OTHER INFORMATION

NFPA	**Health hazards**	**Flammability**	**Instability**	**Special hazards**
	1	0	0	-
HMIS	**Health hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	-	-	-	Not determined

Issue Date: 08-Sep-2022
Revision Date: 20-Sep-2022
Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet