

Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Artemis Opti (USA version)
Other Names: None
Uses: Adjuvant
Chemical Family: Polyalkyleneoxide modified Heptamethyltrisiloxane
Chemical Formula: Proprietary
Chemical Name: Polyalkyleneoxide modified Heptamethyltrisiloxane
Product Description: Adjuvant / surfactant for use in agriculture

Contact details of the supplier of this Safety Data Sheet

Company Name: Agrichem
Company Address: 2 Hovey Rd, Yatala QLD 4207 Australia
Phone Number: + 61 7 3451 0000
Emergency Contact: Poison Information Centre Australia – **13 11 26**

Date of Issue: 22/04/2021

2. HAZARD IDENTIFICATION

Poisons Schedule (Australia): GHS classification 4 see below

Global Harmonised System

(GHS) Hazard Classification: ACUTE TOXICITY:inhalation - Category 4 SERIOUS EYE DAMAGE/
EYE IRRITATION - Category 2B

Hazard Classification: Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia code of practice, preparation of Safety Data Sheets for hazardous chemicals (SWACOPSDS).

Hazard Category: ACUTE TOXICITY:inhalation - Category 4
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B

Pictograms:



Signal word(s): Warning

Hazard Statements:

Health	H332	Harmful if inhaled.
	H320	Causes eye irritation

Precautionary Statements: Not for aerosol use

Prevention	P260	Do not breath fumes, mist, vapour or spray
	P264	Wash hands thoroughly after handling
	P271	Use only outdoors or in a well-ventilated area
	P280	Wear protective gloves/protective clothing/eye protection face protection Wear respiratory protection
Response	P310	Immediately call a POISON CENTER or doctor/physician
	P304+P340	IF INHALED: Remove victim to fresh air and keep at rest, in a position comfortable for breathing
	P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention
	P337+313	If eye irritation persists, get medical attention
Storage	P405	Store locked up
Disposal	P501	Dispose of contents / container in accordance with local/regional/ national or international regulations

National Transport Commission (Australian)

Australian Code for the transport of Dangerous Goods by Road and Rail (ADG Code)

Is **not** a Dangerous Goods according to the criteria of the ADG Code for road or rail transport ref ADG Code, ref to chapter 14 of this SDS for further details.

3. INFORMATION ON INGREDIENTS

Ingredients

Substance/mixture:	Mixture	
Chemical Entity	CAS No	Proportion % w/w
Polyalkyleneoxide modified	Trade secret	70 - 100
Heptamethyltrisiloxane		

No other ingredients present which to the knowledge of the supplier and at the concentrations present, are classified as hazardous to health or the environment thereby require reporting in this section.

4. FIRST AID MEASURES

Description of necessary measures according to routs of exposure

Swallowed: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed. to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never

give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Eye: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses if present and easy to do so. Immediately call a medical doctor or poison information centre for treatment advice.

Skin: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Advice to Doctor: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatments.

Protection of first aid personal No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Medication Conditions: No data available

Aggravated by Exposure: No data available

See toxicological: information (section 11)

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
Unsuitable Extinguishing Media

Water jet

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst

Hazardous thermal: Carbon dioxide

Decomposition products: carbon monoxide silicon oxides Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

Special protective actions for firefighters: 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. Use water spray to keep

fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain

Special protective equipment for fire-fighters: Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel:** 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders:** If specialised 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:** 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).

Methods and material for containment and cleaning 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 waterinsoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.
- Large spill:** Stop leak if without risk. Move containers from spill area. Approach release from upwind. 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 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal

7. HANDLING AND STORAGE

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see section 8 of SDS). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.
Advice on general occupational hygiene:	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. See also Section 8 for additional information on hygiene measures
Conditions for safe storage, including any incompatibilities:	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 of SDS) and food and drink. Store locked up. 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.

8. PHYSICAL AND CHEMICAL PROPERTIES

Control parameters

Occupational exposure None

limits:

Appropriate engineering Controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits

Environmental exposure controls: 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

Hygiene measures: 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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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

Skin protection

- Hand 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated
- Body protection:** 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.
- Other skin protection:** 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:** If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134). 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state:** Liquid
- Appearance:** Translucent / light yellow
- Odour:** Polyether
- Odour threshold:** No Data Available
- Colour Clear:** Colourless/ light yellow solution
- pH:** No Data Available
- Vapour pressure:** No Data Available
- Relative Vapour Density:** No Data Available
- Boiling point:** > 150 °C (302.00 °F) Copolymer.
- Melting point:** -50 °C (58.00- °F) Pour point
- Freezing point:** No Data Available
- Solubility in water:** Dispersible
- Specific gravity:** 1.002 g/cm³
- Solubility:** No Data Available
- Partition coefficient: n-octanol/water:** No Data Available
- Flash point:** 143 °C (289.40 °F) (ASTM D 93)
- Burning time:** No Data Available
- Burning rate:** No Data Available

Evaporation rate:	< 1(n-Butyl acetate=1)
Flamability (solid, gas):	No Data Available
Lower and upper explosive (flammability) limits :	Lower: No Data Available Upper: No Data Available
Vapour pressure :	1.33 hPa @ 20 °C (68.00 °F)
Vapour density:	Greater than 1 [Air = 1]
Molecular weight:	No Data Available
Particle size:	No Data Available
Particle size distribution:	No Data Available
Auto-ignition temp:	No Data Available
Decomposition temp:	No Data Available
SADT:	No Data Available
Viscosity:	Dynamic, No Data Available. Kinematic, No Data Available
Volatile organic content:	24.5 g/l

Note: Physical data are typical values but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity:	Stable under normal conditions.
Chemical Stability:	Stable under ordinary conditions.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to Avoid:	No specific data
Materials to Avoid:	No specific data
Hazardous Products of Decomposition:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure
Polyalkyleneoxide modified Heptamethyltrisiloxane				
	LD50 Oral	Rat	>2000mg/kg	-
	LD50 Dermal	Ratq	>2000mg/kg	-
Artemis Opti				
	LD50 Oral	Rat	>2000mg/kg	-
	LD50 Dermal	Ratq	>2000mg/kg	-

Conclusion/summary: Not determined

Irritation/corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation
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Artemis Opti					
	Skin – Mild irritant	Rabbit	>2000mg/kg		-
	Eyes – Mild irritant	Rabbit			-

Conclusion/Summary

Skin: Not determined

Eyes: Not determined

Respiratory: Not determined

Sensitization

Product / ingredient name	Route of exposure	Species	Result
Artemis Opti	-	Guinea pig	Din not produce sensitization. Magnusson-Kligmann

Conclusion/Summary

Skin: Not determined

Respiratory: Not determined

Mutagenicity

Conclusion/summary: Not a mutagenic in Ames test

Carcinogenicity:

Conclusion/summary: Not determined

Reproductive toxicity:

Conclusion/summary: Not determined

Teratogenicity:

Conclusion/summary: Not determined

Specific target organ toxicity (single exposure)

No Data Available

Specific target organ toxicity (repeated exposure)

No Data Available

Information on the likely routes of exposure

No Data Available

Potential acute health effects

Eye contact : Causes eye irritation.

Inhalation : Harmful if inhaled.

Skin contact : No known significant effects or critical hazards.
Ingestion : May be irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following: irritation watering and redness
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available
Potential delayed effects : Not available

Long term exposure

Potential immediate effects: Not available
Potential delayed effects: Not available

Potential chronic health effects

Conclusion/Summary : Not determined

General: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available

Other information

The information given is based on data available for the material, the components of the material, and similar materials. This material was not mutagenic in three mammalian test systems including the Chinese Hamster Ovary (CHO)/HGPRT gene mutation assay, a micronucleus cytogenetic assay in mice, and an in vitro mammalian cytogenetic test. In a repeated skin application study with rats, this material caused moderate skin irritation which resolved during a post-application recovery period. There was no evidence for percutaneous cumulative or specific organ toxicity, and no effect on male or female reproductive systems. Findings from a 14-day dietary feeding study with rats show that high dosage repeated ingestion of this material causes reversible adverse effects on the male and female reproductive tracts. Additional effects seen include increased liver weight, altered blood cytology/chemistry, and thyroid enlargement (primarily hypertrophy, with some hyperplasia). Evidence of partial or complete recovery was found over a 28-day recovery period. Findings from a repeat 9-day aerosol inhalation toxicity study with rats show a no-observable-effect-level (NOEL) of less than 0.025 mg/l. Symptoms of toxicity included rales, gasping, ocular opacity, prostration, hypothermia, reduced body weight gain and food consumption, changes in clinical pathology, decreased thymus weight, and microscopic lesions in the nasal cavity. There was no effect on the male or female reproductive systems. It is not anticipated that the use of aqueous dilutions of this product would result in this type of aerosol exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Conclusion/Summary:	No Data Available
Persistence/ Degradability:	No Data Available
<u>Mobility in soil</u>	
Soil/water partition coefficient (KOC):	No Data Available
Other adverse effects:	No know significant effects or critical hazards

13. DISPOSAL CONSIDERATIONS

Disposal methods	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.
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14. TRANSPORTATION INFORMATION

DOT Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Polyalkyleneoxide modified Heptamethyltrisiloxane)
DOT Hazard Class	9
DOT Label (S)	9
UN/NA Number	UN3082
Packaging group	III
IMDG Shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Polyalkyleneoxide modified Heptamethyltrisiloxane)
Class	9
IMDG-Labels	9
UN Number	UN3082

Packaging group III
EmS No. F-A: S-F

IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.(Polyalkyleneoxide modified Heptamethyltrisiloxane)

Class 9

ICAO-Labels 9MI

Packaging group III

Special precaution for user

This substance/preparation meets the criteria of a Marine Pollutant (see IMDG paragraph 2.9.3.3) but is not identified in the IMDG Code (Marpol list). As such, substance/preparation shall be transported as a marine pollutant in accordance with the IMDG code

15. REGULATORY INFORMATION

US Federal regulations
United States - TSCA 12(b) - Chemical export notification: None required.
United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed

SARA 311/312

Classification : Immediate (acute) health hazard

California Prop. 65: None required

Canada

WHMIS (Canada): Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

International regulations

International lists
Australia inventory (AICS): All components are listed or exempted.
Japan inventory: All components are listed or exempted
China inventory (IECSC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Canada inventory: At least one component is not listed.
New Zealand Inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

16. OTHER INFORMATION

Hazardous Material Information system III (USA):

Health	2
Flammability	1

Physical hazards 0

Caution: HMIS[®] ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS[®] ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS[®] ratings are to be used with a fully implemented HMIS[®] program. HMIS[®] is a registered mark of the National Paint & Coatings Association (NPCA). HMIS[®] materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

History

Date of printing:	29 Sep 2020
Data of issue	29 Sep 2020
Date of Revision	29 Sep 2020
Date of previous issue	29 Sep 2020
Prepared by	Agrichem technical team

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17. KEY

< Less than

> Greater than

a.i. Active ingredient

ADG Code Australian dangerous goods code

AICS Australian Inventory of Chemical Substances

ATE Acute toxicity estimation

atm Atmosphere

CAS Chemical Abstract Service (registry number)

cm² Square Centimetres

CO₂ Carbon Dioxide

deg C (°C) Degrees Celsius

EPA Environmental Protection Agency based in each state of Australia

g Grams

g/cm³ Grams per Cubic Centimetre

g/l Grams per Litre

HSIS Hazardous substances information system

HSNO Hazardous substances and New Organism

HDPE High density polypropylene

IDLH Immediately Dangerous to Life and Health

Immiscible Liquid are insoluble in each other inHg inch of Mercury

InH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilogram per Cubic Metre

LC₅₀ LC stands for lethal concentration, LC₅₀ is the concentration of a product in air that will cause the death of 50% of a population of test animals. Product is normally inhaled for between 1 and more typically 4 hours

LD₅₀ LD stands for lethal dose. LD₅₀ is the amount of product given in a single dose, causing death in 50% of a population of test animals.

LDLo The lowest amount of a solid or liquid material reported to have caused the death of animals or humans

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or Miscible Liquids from one homogeneous liquid phase regardless of the amount of either component present

mm Millimetre

mm H₂O Millimetres of Water

mPa.s Millipascals per Second

MSHA Mine safety and health administration

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Office for Economic Co-operation and Development

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

PPE personal protective equipment

ppm Parts per Million

ppm/2h Parts per million per 2 hours

ppm/6h Parts per million per 6 hours

psi Pounds per square inch

R Rankine

RCP Reciprocal Calculation Procedure

SCBA Self Contained Breathing Apparatus SWA Safe Work Australia

STEL Short Term Exposure Limit

TVL Threshold Limit Value

TWA Time Weighted Average

UN United Nations

wt Weight

End of SDS