SAFETY DATA SHEET

Issue Date 15-May-2017 **Revision Date** 25-May-2017 **Version** 1.1

Section 1: Identification: Product identifier and chemical identity

Product identifier

Product Name PathoScreen™ Medium MPN Pillows

Product Code(s) 2610796

Other means of identification

Safety data sheet number M01186

Recommended use of the chemical and restrictions on use

Recommended Use Detection of hydrogen sulfide producing bacteria.

Uses advised against No information available

Details of manufacturer or importer

Manufacturer Address
Hach Company
P.O.Box 389 Loveland, CO 80539 USA
(970) 669-3050

Supplier
Hach Company
10/15 Howleys Road
Notting Hill VIC 3168
Tel: 1300 887 735

Emergency telephone number
13 11 26

Section 2: Hazard(s) identification

GHS - Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

Label elements

Hazard statements
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS)

EU Specific Hazard Statements
Not applicable

Other hazards
Causes mild skin irritation

No information available

Section 3: Composition and information on ingredients, in accordance with Schedule 8

Substance

Not applicable

Mixture

Chemical name	Formula	CAS No.	EC No.	Percent Range
Ferric ammonium citrate	$C_6H_8O_7$ • xFe • xH_4N	1185-57-5	214-686-6	1 - 5%

Section 4: FIRST AID MEASURES

Emergency telephone number
Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766

Description of first aid measures

General advice IF IN EYES: Flush eyes for at least 15 minutes. May cause skin irritation.

Inhalation IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a doctor.

Eye contact 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 advice/attention.

Skin contact For minor skin contact, avoid spreading material on unaffected skin. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before re-use. Remove and isolate contaminated clothing and shoes. Call a POISONS INFORMATION CENTRE or doctor if you feel unwell. If skin irritation persists, call a doctor.

Ingestion IF SWALLOWED: Rinse mouth. If symptoms persist, call a doctor.

Self-protection of the first aider Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

Section 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical

Specific hazards arising from the chemical None reported.

Hazardous combustion products Phosphorus oxides. Carbon monoxide, Carbon dioxide.

Special protective actions for firefighters

Special protective equipment for firefighters	Use personal protective equipment as required. Wear self contained breathing apparatus for firefighting if necessary.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.
Other Information	Use personal protective equipment as required.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. 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. Cover with plastic sheet to prevent spreading.
Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations. See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage, including how the chemical may be safely used

Precautions for safe handling

Advice on safe handling	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapours/spray.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.
Incompatible materials	None known based on information supplied.
Materials to avoid	Strong oxidising agents. Strong acids. Strong bases.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits .

Chemical name	Australia
Ferric ammonium citrate (1 - 5%) CAS#: 1185-57-5	TWA: 1 mg/m³

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear tight sealing safety googles and/or face protection shield. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid

Gas Under Pressure Not classified according to GHS criteria

Appearance powder **Colour** brown

Odour Not determined **Odour threshold** No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	7.37	5% Solution
Melting point/freezing point	No data available	
Boiling point/boiling range	No data available	
Evaporation rate	Not applicable	
Vapour pressure	Not applicable	
Vapor density (air = 1)	Not applicable	
Specific gravity (water = 1 / air = 1)	1.46	
Partition Coefficient (n-octanol/water)	No data available	

Soil Organic Carbon-Water Partition Coefficient	No data available
Auto-ignition temperature	No data available
Decomposition temperature	134 °C / 273 °F
Dynamic viscosity	Not applicable
Kinematic viscosity	Not applicable

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
None reported	No information available	No data available	No information available

Particle Size	No information available
Particle Size Distribution	No information available

Other Information

Metal Corrosivity	Not classified as corrosive to metal according to GHS criteria
Steel Corrosion Rate	Not applicable
Aluminum Corrosion Rate	Not applicable
Volitale Organic Compounds (VOC) Content	Not applicable.
Bulk density	No data available
Explosive properties	Not classified according to GHS criteria.
Explosion data	Can burn in fire, releasing toxic vapors.
Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	Not classified as flammable according to GHS criteria.
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Flash point	Not applicable
Method	No information available
Oxidising properties	Not classified according to GHS criteria.

Reactivity propeties Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

Section 10: STABILITY AND REACTIVITY

Reactivity

Reactivity propeties Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

Chemical stability

Stability Stable under normal conditions

Explosion data

Upper explosion limit No data available

Lower explosion limit No data available

Auto-ignition temperature
No data available

Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

Possibility of Hazardous Reactions

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerisation Hazardous polymerisation does not occur.

Conditions to avoid

Conditions to avoid Extreme temperatures. Poor Ventilation. Contact with acid or acid fumes.

Incompatible materials

Incompatible materials None known based on information supplied.

Materials to avoid Strong oxidising agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Phosphorus oxides. Carbon dioxide. Carbon monoxide.

Section 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information	Causes mild skin irritation.
Inhalation	No known effect based on information supplied.
Eye contact	No known effect based on information supplied.
Skin contact	Causes mild skin irritation.
Ingestion	No known effect based on information supplied.
Aggravated Medical Conditions	Skin disorders.

Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	No information available.

Product Acute Toxicity Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Unknown Acute Toxicity
0 % of the mixture consists of ingredient(s) of unknown toxicity.

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

ATEmix (oral)	13,492.00 mg/kg

ATEmix (dermal)	31,579.00 mg/kg

Ingredient Acute Toxicity Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available
Aspiration toxicity	If available, see data below
Kinematic viscosity	Not applicable

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	If available, see data below
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
If available, see data below

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
If available, see data below

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route	No data available.
Respiratory Sensitization Exposure Route	No data available.

Ingredient Sensitization Data

Skin Sensitization Exposure Route	If available, see data below.
Respiratory Sensitization Exposure Route	No data available.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route	No data available.
Dermal Exposure Route	No data available.
Inhalation (Dust/Mist) Exposure Route	No data available.
Inhalation (Vapor) Exposure Route	No data available.
Inhalation (Gas) Exposure Route	No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route	No data available
Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Ferric ammonium citrate	1185-57-5	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Product Carcinogenicity Data No data available

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Product Germ Cell Mutagenicity *invitro* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data** If available, see data below

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Ingredient Germ Cell Mutagenicity *invivo* **Data**

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Oral Exposure Route No data available

Dermal Exposure Route	No data available
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route	If available, see data below
Dermal Exposure Route	If available, see data below
Inhalation (Dust/Mist) Exposure Route	No data available
Inhalation (Vapor) Exposure Route	No data available
Inhalation (Gas) Exposure Route	No data available

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity	Based on the classification principles, not classified as hazardous to the environment.
Unknown Aquatic Toxicity	0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic toxicity

Fish	No data available
Crustacea	No data available
Algae	No data available

Terrestrial toxicity

Soil	No data available
Vertebrates	No data available
Invertebrates	No data available

Ingredient Ecological Data

Aquatic toxicity

Fish	If available, see ingredient data below
Crustacea	If available, see ingredient data below
Algae	If available, see ingredient data below

Terrestrial toxicity

Soil	No data available

Vertebrates No data available

Invertebrates No data available

Other Information

Persistence and degradability
None known.

Product Biodegradability Data
If available, see ingredient data below.

Ingredient Biodegradability Data
Test data reported below

Chemical name	Test method	Biodegradation	Exposure time	Results
Dipotassium phosphate (10 - 20%) CAS#: 7758-11-4	Inorganic Salt	None reported	None reported	Not readily biodegradable

Bioaccumulation
If available, see ingredient data below.

Product Bioaccumulation Data No data available.

Ingredient Bioaccumulation Data No data available

Additional information

Product Information No data available

Partition Coefficient (n-octanol/water) No data available

Ingredient Information

Mobility
Mobility in soil: Moderate to high mobility. If available, see ingredient data below.

Product Information No data available

Soil Organic Carbon-Water Partition Coefficient No data available

Ingredient Information

Additional information

Water solubility

Product Information

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Ingredient Information

Chemical name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Ferric ammonium citrate (1 - 5%) CAS#: 1185-57-5	Completely soluble	250000 mg/L	20 °C	68 °F

Other adverse effects
No information available.

Section 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not re-use container. Working in a well-ventilated area. Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste in countries other than the US. Improper disposal or re-use of this container may be dangerous and illegal.

Section 14: TRANSPORT INFORMATION

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.
If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

Section 15: REGULATORY INFORMATION

Regulatory information

National regulations

Australia
Model Work Health and Safety Regulations
[NOHSC:2011(2003] National Code of Practice for the Preparation of Material Safety Data Sheets
Labelling of Workplace Hazardous Chemicals Code of Practice
See section 8 for national exposure control parameters

National pollutant inventory
Not subject to reporting

Banned and/or restricted
No Products Listed.

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

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
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

Section 16: Any other relevant information

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

Legend - Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	MAC
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these " liberated " exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitisation
RSP	Respiratory sensitisation	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Issue Date 15-May-2017

Revision Date 25-May-2017

Revision Note
None

Reference Sources for Section 11
See Section 11: TOXICOLOGICAL INFORMATION

Disclaimer
USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

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End of Safety Data Sheet