


SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME	BORIC ACID, NF (Powder)
PRODUCT CODE	0064
SUPPLIER	MEDISCA Inc. Tel.: 1.800.932.1039 Fax.: 1.855.850.5855 626 Tom Miller Road, Plattsburgh, NY, 12901 MEDISCA Pharmaceutique Inc. Tel.: 1.800.665.6334 Fax.: 514.338.1693 4509 Rue Dobrin, St. Laurent, QC, H4R 2L8 MEDISCA Australia PTY LTD Tel.: 1.300.786.392 Fax.: 61.2.9700.9047 Unit 7, Heritage Business Park 5-9 Ricketty Street, Mascot, NSW 2020
EMERGENCY PHONE	CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 NSW Poisons Information Centre: 131 126 National Chemical Emergency Centre 44(0)1235239670
RECOMMENDED USES	Pharmaceutical Manufacturing
RESTRICTIONS ON USE	Not applicable

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION	Acute Toxicity - Oral (Category 5) Acute Toxicity - Dermal (Category 5) Acute Toxicity - Inhalation (Category 5) Eye Irritation (Category 2B) Toxic to Reproduction (Category 1B)
PICTOGRAM	
SIGNAL WORD	Danger
HAZARD STATEMENT(S)	May be harmful if swallowed, inhaled or in contact with skin. Causes eye irritation. May damage fertility or the unborn child.
ADVERSE PHYSIOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS	Not Applicable.
PRECAUTIONARY STATEMENT(S)	Prevention Obtain, read and follow all special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye and face protection and hearing protection Wash thoroughly after handling. Do not touch eyes.

HMIS CLASSIFICATION	Response	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 help. IF EXPOSED OR CONCERNED: Get medical advice. IF SWALLOWED or ON SKIN or INHALED: Get medical help.		
	Storage	Store locked up.		
	Disposal	Dispose of contents and/or container in accordance with local regulations.		
	Health Hazard	1	Flammability	0
	Reactivity	0	Personal Protection	E

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	Orthoboric acid
BOTANICAL NAME	Not applicable
SYNONYM	Boron Trihydroxide
CHEMICAL FORMULA	H ₃ BO ₃
CHEMICAL FAMILY	Borate
CAS NUMBER	10043-35-3
ALTERNATE CAS NUMBER	Not applicable
MOLECULAR WEIGHT	61.8317

CHEMICAL NAME	CAS NUMBER	EC NUMBER	% BY WEIGHT
BORIC ACID	10043-35-3	233-139-2	100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as health hazards and hence require reporting in this section.

SECTION 4: FIRST-AID MEASURES

IN CASE OF EYE CONTACT	Flush with copious amounts of water for 15 minutes, separating eyelids with fingers. If irritation persists seek medical aid.
IN CASE OF SKIN CONTACT	Wash with soap & water for 15 minutes. If irritation persists seek medical aid.
IF SWALLOWED	Call a physician. Wash out mouth with water. Do not induce vomiting without medical advice.
IF INHALED	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician
MEDICAL ATTENTION AND SPECIAL TREATMENT	Get emergency medical help.
SYMPTOMS CAUSED BY EXPOSURE	Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 5: FIREFIGHTING MEASURES

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL	Chemical dangers: Decomposes above 100°C. This produces water and irritant boric anhydride. The solution in water is a weak acid. Attacks metals. This produces hydrogen. This generates fire and explosion hazard.
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FLAMMABLE PROPERTIES

Non-flammable or combustible

HAZARDOUS COMBUSTION PRODUCTS

Under fire conditions, hazardous fumes will be present.

SUITABLE & UNSUITABLE EXTINGUISHING MEDIA
Small fire: dry chemical, CO₂ or water spray. **Large fire:** dry chemical, CO₂, alcohol resistant foam or water spray. Do not get water inside containers.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6: ACCIDENTAL RELEASE MEASURES
PERSONAL PRECAUTIONS

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

METHODS & MATERIAL FOR CONTAINMENT

On land, sweep or shovel into suitable containers. Minimize generation of dust.

CLEANUP PROCEDURE

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Shut off all sources of ignition. Evacuate the area. If necessary, employ water fog to disperse the vapors. Absorb the matter with compatible vermiculite or other absorbing material. Place in a suitable container and retain for disposal. Ventilate and clean the affected area. Do not flush into sewerage system or to drains.

REFERENCE TO OTHER SECTIONS

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

NOTES

Chemical dangers: Decomposes above 100°C. This produces water and irritant boric anhydride. The solution in water is a weak acid. Attacks metals. This produces hydrogen. This generates fire and explosion hazard.

SECTION 7: HANDLING AND STORAGE
PRECAUTIONS FOR SAFE HANDLING

Do not inhale. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

CONDITIONS FOR SAFE STORAGE

Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

STORAGE CONDITIONS

Store in original container, tightly sealed, protected from direct sunlight and moisture.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Chemical Name: BORIC ACID CAS #: 10043-35-3

	Country	Limit value-8 hours		Limit value-Short Term		IDLH	REL	Advisory	Notes
		ppm	mg/m ³	ppm	mg/m ³				
OSHA	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A

ACGIH	USA	N/L	2	N/L	6	N/L	N/L	N/A	Inhalable fraction
NIOSH	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
WEEL	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
HSIS	Australia	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
HSE	UK	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
GESTIS	Canada - Ontario	N/L	2(1)	N/L	6(1)	N/L	N/L	N/A	(1) Inhalable aerosol
GESTIS	Germany (AGS)	N/L	0.5(1)	N/L	1 (1)(2)	N/L	N/L	N/A	(1) Inhalable fraction (2) 15 minutes average value
GESTIS	Germany (DFG)	N/L	10 (1)	N/L	10(1)(2)	N/L	N/L	N/A	Inhalable aerosol. (1) Calculated as boron: 1,8 mg/m ³ (2) 15 minutes average value In the case of simultaneous appearance of boric acid and tetraborates counts 0,75 mg/m ³ calculated as boron
GESTIS	Ireland	N/L	2	N/L	N/L	N/L	N/L	N/A	N/A
GESTIS	Latvia	N/L	10	N/L	N/L	N/L	N/L	N/A	N/A
GESTIS	Spain	N/L	2	N/L	6	N/L	N/L	N/A	N/A
GESTIS	Switzerland	N/L	1.8(1)	N/L	1.8(1)(2)	N/L	N/L	N/A	(1) Inhalable fraction (2) 15 minutes average value

N/L = Not listed ; N/A = Not Available

PELs are 8-hour TWAs = Limit value - Eight hours

Ceiling or Short-Term TWA = STEL = Limit value - Short term

EXPOSURE GUIDELINES

Consult local authorities for provincial or state exposure limits. Particulates not otherwise regulated, respirable fraction: 5 mg/m³

PERSONAL PROTECTIVE EQUIPMENT

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by WHMIS or OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. **Skin:** Wear appropriate gloves to prevent skin exposure. **Clothing:** Wear appropriate protective clothing to minimize contact with skin. **Respirators:** Follow WHMIS or OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. **Thermal Hazards:** For products representing a thermal hazard, appropriate Personal Protective Equipment should be used.

SPECIFIC ENGINEERING CONTROLS

Adequate mechanical ventilation. Fumehood, eye wash station, and safety shower.

BIOLOGICAL MONITORING

Not available

CONTROL BANDING

Not available

NOTES

OEL: 1 mg/m³

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE

Solid

DESCRIPTION	Colorless, odorless scales of a somewhat pearly luster, or crystals, or white powder that is slightly unctuous to the touch. Is stable in air.				
SOLUBILITY	Freely soluble in glycerin, in boiling water, and in boiling alcohol; soluble in water and in alcohol.				
ODOR	Odorless				
FLAMMABILITY	Non-flammable or combustible (used as a flame retardant)				
AUTO-IGNITION TEMPERATURE	Not available	BOILING POINT	300°C, 572°F	DECOMPOSITION TEMPERATURE	>100°C, >212°F
EVAPORATION RATE	Non-volatile	EXPLOSIVE LIMIT	Not available	FLASH POINT	Not available
log P (OCTANOL-WATER)	-0.757 (25°C)	LOWER FLAMMABLE/EXPLOSIVE LIMIT(S)	Non-flammable	MELTING/FREEZING POINT	170.9 °C, 339.62°F
PARTICLE CHARACTERISTICS	Not available	OXIDIZING PROPERTY	Not available	pH	6.1 (0.1%) / 5.1 (1.0%) / 3.7 (4.7%) 3.8-4.8 (3.3%)
RELATIVE DENSITY (WATER = 1)	1.49 (23°C)	SPECIFIC GRAVITY	1.44 (15°C)	UPPER FLAMMABLE/EXPLOSIVE LIMIT(S)	Non-flammable
VAPOR DENSITY (AIR = 1)	Not available	VAPOR PRESSURE	2.6 mm Hg (20°C)	VISCOSITY	Not available

The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY	Boric Acid is a stable product, but when heated it loses water, first forming Metaboric Acid, and on further heating it is converted into Boric Oxide
CHEMICAL STABILITY	Stable under recommended storage conditions. Under normal ambient temperatures (-40°C to +40°C), the product is stable product. When heated it loses water, first forming metaboric acid (HBO ₂), and on further heating it is converted into boric oxide (B ₂ O ₃).
INCOMPATIBLE MATERIALS	Strong Oxidants. Weak acids. Bases. Acetic anhydride. Carbonates. Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas, which could create an explosive hazard.
HAZARDOUS DECOMPOSITION PRODUCTS	Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and other gases may occur
HAZARDOUS POLYMERIZATION	Will not occur
POSSIBILITY OF HAZARDOUS REACTION	Not established
CONDITIONS TO AVOID	Moisture, sunlight and extreme temperatures

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Oral: Rat: LD50: (mg/kg): 2500
 Dermal: Rabbit LD50: (mg/kg): > 2000
 Inhalation: Rat: LC50: (mg/L/4hr): > 0.002

SKIN CORROSION/IRRITATION

Based on available data, the classification criteria are not met.

Skin human: 15 mg/3 day- intermittent, mild

Local effects:

15 mg Skin irritation (Draize) Result: Mild irritation. Species: Human Test Duration: 3 days.

5 ml Skin irritation (10% solution) Result: Mild irritation. Species: Rabbit Test Duration: 24 hours

5 ml Skin irritation (10% solution) Result: Moderate irritation. Species: Guinea pig Test Duration: 24 hours

**SERIOUS EYE DAMAGE/EYE
IRRITATION**

Causes eye irritation.

Local effects: 100 mg Eye irritation (Draize); Result: Mild irritation; Species: Rabbit; Test Duration: 24 hours

Method: Eye Irritation Study – similar to OECD Guideline 405

Species: New Zealand White Rabbit

Dose: 0.1 g

Routes of Exposure: Eye

Results: Not irritating, corneal involvement or irritation clearing in 7 days.

Classification: Based on mean scores < 1, and the effects were fully reversible within 7 days, the classification criteria are not met. Many years of occupational exposure indicate no adverse effects on human eye.

RESPIRATORY SENSITIZATION

Based on available data, the classification criteria are not met.

Method: Buehler Test – OECD Guideline 406

Species: Guinea Pig

Dose: 0.4 g 95 % w/w/boric acid

Routes of Exposure: Dermal

Results: Not a skin sensitizer. No respiratory sensitisation studies have been conducted. There are no data to suggest that boric acid is a respiratory sensitizer.

SKIN SENSITIZATION

Due to lack of data, the classification is not possible.

GERM CELL MUTAGENICITY

Based on available data, the classification criteria are not met.

Method: Several in vitro mutagenicity studies have been carried out on boric acid including gene mutation in mammalian cells, unscheduled DNA synthesis, chromosomal aberration and sister chromatid exchange in mammalian cells.

Species: L5178Y mouse lymphoma, V79 Chinese hamster cells, C3H/10T1/2 cells, hepatocytes, Chinese hamster ovary (CHO cells).

Dose: 1.0 - 10.0 mg/ml (1000 -10000 ppm) boric acid

Routes of Exposure: in vitro

Results: Not mutagenic (based on boric acid).

CARCINOGENICITY

OSHA BORIC ACID is not listed.

NTP BORIC ACID is not listed.

IARC BORIC ACID is not evaluated.

California Proposition This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**ADDITIONAL CARCINOGENICITY
INFORMATION**

Based on the available data, the classification criteria are not met.

Method: OECD 451 equivalent.

Species: B6C3F1 mice

Dose: 446 ; 1150 mg boric acid/kg bw/day

Routes of Exposure: Oral feeding study

Results: No evidence of carcinogenicity.

REPRODUCTIVE TOXICITY

May damage fertility or the unborn child.

Method: Three-generation feeding study, similar to OECD 416 Two-Generation Study

Species: Rat

Dose: 0; 34 (5.9); 100 (17.5) and 336 (58.5) mg boric acid (mg B)/kg bw/day

Routes of Exposure: Oral feeding study

Results: NOAEL in rats for effects on fertility in males is 100 mg boric acid/kg bw equivalent to 17.5 mg B/kg bw.

Method: Prenatal Developmental Toxicity Study of Boric Acid – OECD Guideline 414

Species: Rat

Dose: 0; 19 (3.3); 36 (6.3); 55 (9.6); 76 (13.3) and 143 (25) mg boric acid (mg B)/kg bw.

Routes of Exposure: Oral feeding study

Results: NOAEL in rats for developmental effects on the foetus including foetal weight loss and minor skeletal variations is

55 mg boric acid/kg bw or 9.6 mg B/kg.

Classification: Reproductive Toxicity Category 2 (Hazard statement: H361: Suspected of damaging fertility or the unborn child.)

Method: Occupational studies of evaluating sensitive sperm parameters in highly exposed borate workers. Epidemiological studies evaluating high environmental exposures to boron and developmental effects in humans have been conducted.

Species: Human

Dose: A subset of workers was exposed to 125 mg B/day.

Routes of Exposure: Combined oral ingestion and inhalation

Results: No adverse fertility effects in male workers. Epidemiological studies of human developmental effects have shown an absence of effects in exposed borate workers and populations living in areas with high environmental levels of boron.

Mouse: 1003 mg/kg Reproductivity; Result: Fetal malformations and maternal toxicity.

Rat: 163 mg/kg Reproductivity; Result: Fetal malformations and maternal toxicity.

Rat: 400 - 500 mg/kg/day Reproductivity; Result: Females dosed before mating had increased neonatal mortality; males showed testicular atrophy and infertility.

**SPECIFIC TARGET ORGAN
TOXICITY - SINGLE EXPOSURE**

Based on the available data, the classification criteria are not met.

Method: Standard Test Method for Estimating Sensory Irritancy of Airborne Chemicals – ASTM E981-04 (2004)

Species: Mouse

Dose: 221 - 1096 mg boric acid/m³

Routes of Exposure: Inhalation

Results: The highest concentration of boric acid that was achievable with acceptable control of the aerosol concentration was 1096 mg/m³ with a % RD of 19%. The lowest exposure tested of 221 mg/m³ boric acid resulted in a reduced respiration rate of 9%, graded as no irritation.

Method: Sensory irritation in human volunteers

Species: Human

Dose: 2.5, 5, 10 mg boric acid/m³

Routes of Exposure: Inhalation

Results: No irritation from boric acid was observed at exposures up to 10 mg/m³ among male and female human volunteers under controlled laboratory conditions.

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE

Based on available data, the classification criteria are not met.
 Method: Chronic toxicity study of boric acid, similar to OECD 452
 Species: Rat
 Dose: 0; 33 (5.9); 100 (17.5); 334 (58.5) mg boric acid (B)/kg bw per day (nominal in diet)
 Routes of Exposure: oral: feed
 Results: A NOAEL of 17.5 mg B/kg bw/day equivalent to 100 mg boric acid/kg bw/day was determined in a chronic feeding study (2 years) in rats and is based on testes effects. Other effects (kidney, haemopoietic system) are regarded only at even higher dose levels.

ASPIRATION HAZARDS

Based on available data, the classification criteria are not met.
 Physical form of solid powder indicates no aspiration hazard potential.

SIGNS AND SYMPTOMS OF EXPOSURE

ROUTES OF EXPOSURE:
 Oral, Dermal, Inhalation, Eye contact
 EARLY ONSET SYMPTOMS RELATED TO EXPOSURE:
 Not available
 DELAYED HEALTH EFFECT FROM EXPOSURE:
 Dehydration. Kidney failure. Arrhythmias. Shock. Cyanosis. Hypotension. Metabolic acidosis. Central nervous system depression. Circulatory collapse.

Symptoms related to the physical, chemical, and toxicological characteristics:
 Nausea. Vomiting. Diarrhea. Red, scaly skin. Abdominal pain. Excitement. Depression. Lethargy.
 Seizures. Blue or blue-green discoloration of skin, urine, and stools

POTENTIAL HEALTH EFFECTS

Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Cough. Sore throat.
Ingestion Not intended for ingestion. May be harmful if swallowed. Nausea. Vomiting. Diarrhoea. Abdominal pain. Headache. Drowsiness. Convulsions. Boric acid has a relatively low acute toxicity. Small amounts (teaspoonful) swallowed accidentally are not relatively likely to cause effects; swallowing larger than that may cause gastrointestinal symptoms. May also cause nausea, vomiting and diarrhoea, with delayed effects of skin redness and peeling.
Skin May be harmful if absorbed through skin. May cause skin irritation. Skin rash. No acute symptoms expected.
Eyes Causes eye irritation. Redness. Pain.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY

EC50: 48 Hr: Crustacea: (mg/L): Not available
 LC50: 96 Hr: Fish: Xyrauchen texanus: (mg/L): > 100
 EC50: 72 or 96 Hr: Algae (or other aqua plants): (mg/L): Not available

PERSISTENCE AND DEGRADABILITY

Not biodegradable

BIOACCUMULATIVE POTENTIAL

This product will undergo hydrolysis in water to form undissociated boric acid. Boric acid will not biomagnify through the foodchain. Octanol/Water partition coefficient: Log Pow = -0.757 (25°) (based on boric acid)

MOBILITY IN SOIL

The product is soluble in water and is leachable through normal soil. Adsorption to soils or sediments is insignificant.
 Water solubility: 5.6 g/100mL (20°C)

OTHER ADVERSE EFFECTS

Phytotoxicity: Boron is an essential micronutrient for healthy growth of plants. It can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimise the amount of borate product released to the environment.

This product is not intended to be released into the environment

SECTION 13: DISPOSAL CONSIDERATIONS
DISPOSAL METHODS

Dispose of in accordance with federal / local laws and regulations. Avoid release into the environment.

SECTION 14: TRANSPORT INFORMATION
UN PROPER SHIPPING NAME

Not dangerous good

UN NUMBER

Not applicable

CLASS

Not applicable

PACKING GROUP

Not applicable

AUSTRALIA
HAZCHEM

Not applicable

EU
**TRANSPORT IN BULK ACCORDING
TO ANNEX II OF MARPOL 73/78
AND THE IBC CODE**

Not Listed

ENVIRONMENTAL HAZARDS

Not available

**SPECIAL SHIPPING
INFORMATION**

Not applicable

SECTION 15: REGULATORY INFORMATION
UNITED STATES REGULATIONS

Chemical Name & CAS	CERCLA 40 CFR Part 302.4	SARA (Title III) 40 CFR	EPA 40 CFR Part 355 Appendix A	Appendix B	Pennsylvania	Right-to-know New Jersey	Massachusetts	California Prop 65
BORIC ACID, 10043-35-3	N/L	N/L	N/L	N/L	N/L	N/L	N/L	N/L

N/L = Not Listed; X = Listed

AUSTRALIAN REGULATIONS

Chemical Name & CAS	Poisons and Therapeutic Goods	Therapeutic Goods Act	Code of Practices - Illicit Drug	Poisons Standard	Work Health and Safety Regulations	Inventory of Industrial Chemicals
BORIC ACID, 10043-35-3	N/L	Listed as Schedule 5	N/L	Listed	N/L	N/L

N/L = Not Listed

EU REGULATIONS

Chemical Name & CAS	REACH ANNEX XVII	REACH ANNEX XIV	EC 1005/2009	EC 850/2004	EC 1107/2009	PIC - Prior Informed Consent Regulation	EC 2012/18
BORIC ACID, 10043-35-3	N/L	N/L	N/L	N/L	N/L	N/L	N/L

N/L = Not Listed; X = Listed

Any EU regulation not listed above is not applicable to this product.

SUBJECT TO INTERNATIONAL AGREEMENT Not applicable

SECTION 16: OTHER INFORMATION

REFERENCES

ABBREVIATIONS AND ACRONYMS

Available upon request

ACGIH - American Conference of Governmental Industrial Hygienists; **AIHA WEEL** – American Industrial Hygiene Association Workplace Environment Exposure Levels; **CAESAR** – Computer Assisted Evaluation of industrial chemical Substances According to Regulations; **CAS** – Chemical Abstract Service; **CERCLA** – Comprehensive Environmental Response, Compensation, and Liability Act; **EC50** – Effective Concentration, 50%; **EPA** – Environmental Protection Agency; **GHS** – Global Harmonized System; **HMIS** – Hazardous Materials Information System; **HSE** – Health and Safety Executive; **HSIS** – Hazardous Substances Information System; **IARC** – International Agency for Research on Cancer; **IDLH** - Immediately Dangerous to Life or Health; **IRFMN** – Ready Biodegradability Model; **ISS** – Istituto Superiore Sanità; **LC50** – Lethal Concentration, 50%; **LD50** – Lethal Dose, 50%; **MSHA** - Mine Safety and Health Administration; **NIOSH** – National Institute for Occupational Safety and Health; **NTP** – National Toxicology Program; **OSHA PEL** – Occupational Safety & Health Administration Permissible Exposure Limits; **QSAR** – Quantitative Structure-activity relationship; **REL** - Recommended Exposure Limit; **SARA** – Superfund Amendments and Reauthorization Act; **STEL** – Short Term Exposure Limit; **TLV** – Threshold Limit Value; **TWA** – Time Weighted Average; **WHMIS** – Workplace Hazardous Materials Information System

LAST REVISION

02/2023

SUPERSEDES

03/2021

For a list of changes to the SDS since the last version, please communicate with MEDISCA at www.medisca.com

DISCLAIMER

This document was created in accordance with OSHA, Safe Work Australia and WHMIS regulations. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MEDISCA® shall not be held liable for any damage resulting from handling or from contact with the above product. Recipients of the product must take responsibility for observing existing laws and regulations.

SUPPLEMENTARY INFORMATION

For all country specific requirements not outlined on this Safety Data Sheet, please request Supplementary Page to this Safety Data Sheet.