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HYPERSPERSE MSI410

1. Identification

Product identifier **HYPERSPERSE MSI410**

Other means of identification None.

Recommended use of the chemical and restrictions on use

Recommended use Membrane Deposit Control Agent

Restrictions on use Not available.

Company/undertaking identification

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2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 1B
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	

Label elements, including precautionary statements

Hazard symbol(s)

Corrosion

Signal word Danger

Hazard statement(s) Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention Do not breathe mist/vapors. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information None.

Other hazards which do not result in classification None known.

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3. Composition/information on ingredients

Mixtures

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Diethylene triamine penta(methylene-phosphonic acid)	15827-60-8	5- <10
Hydrochloric acid	7647-01-0	0.1- <1

4. First-aid measures

Description of necessary first aid measures

Inhalation Call a physician if symptoms develop or persist.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Personal protection for first-aid responders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Medical attention and special treatment Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Oxides of carbon, nitrogen, phosphorus, and sulphur evolved in fire.

Special protective equipment and precautions for fire fighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Hazchem code None.

General fire hazards No unusual fire or explosion hazards noted.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

For emergency responders Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

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Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

7. Handling and storage

Precautions for safe handling

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7.5 mg/m3
		5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Hydrochloric acid (CAS 7647-01-0)	STEL	8 mg/m3	Gas and aerosol mists.
		5 ppm	Gas and aerosol mists.
	TWA	2 mg/m3	Gas and aerosol mists.
		1 ppm	Gas and aerosol mists.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Liquid

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Physical state	Liquid.
Form	Liquid.
Color	Yellow
Odor	Mild
Odor threshold	Not available.
pH (concentrated product)	2.43
Melting point/freezing point	-4 °C
Initial boiling point and boiling range	104 °C
Flash point	> 101 °C P-M(CC)
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	21 °C
Vapor density	< 1 (Air = 1)
Relative density	1.13
Relative density temperature	21 °C
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	19 cps
Viscosity temperature	21 °C
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	-1 °C
VOC	0 % (Calculated)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Protect from freezing.
Incompatible materials	Avoid contact with strong oxidizers. Incompatible with low carbon steel. Contact with strong bases may cause a violent reaction releasing heat.
Hazardous decomposition products	Ammonia and volatile amines. Hydrogen chloride gas (HCl). Oxides of carbon, nitrogen, and sulphur evolved in fire.

11. Toxicological information

Information on possible routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.

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Ingestion Causes digestive tract burns.

Symptoms related to exposure Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Acute toxicity

Product	Species	Test Results
HYPERSPERSE MSI410		
Acute		
Dermal		
	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Diethylene triamine penta(methylene-phosphonic acid) (CAS 15827-60-8)		
Acute		
Dermal		
LD50	Rabbit	> 7940 mg/kg
Oral		
LD50	Rat	7180 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

ACGIH Carcinogens

Hydrochloric acid (CAS 7647-01-0) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrochloric acid (CAS 7647-01-0) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
Aquatic			
Crustacea	LC50	Daphnia magna	5061 mg/L, 48 hour (Estimated)
	NOEL	Daphnia magna	3165 mg/L, 48 hour (Estimated)
Fish	LC50	Fathead Minnow	8842 mg/L, 96 hour (Estimated)
	NOEL	Fathead Minnow	8500 mg/L, 96 hour (Estimated)

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

No data is available on the degradability of any ingredients in the mixture.

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- COD (mgO2/g)	208 (calculated data)
- BOD 5 (mgO2/g)	1 (calculated data)
- BOD 28 (mgO2/g)	1 (calculated data)
- TOC (mg C/g)	66 (calculated data)
Bioaccumulative potential	
Mobility in soil	No data available for this product.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

UN number	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Phosphonic Acid Derivative)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No
Hazchem code	2X
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PHOSPHONIC ACID DERIVATIVE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	No
ERG Code	153
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PHOSPHONIC ACID DERIVATIVE)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

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ADG

IATA; IMDG

15. Regulatory information

Safety, health and environmental regulations

National regulations

This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals. This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (May 2018).

Group Standard - Water Treatment Chemicals (Corrosive) - HSR002681

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Hydrochloric acid (CAS 7647-01-0)

Australia Medicines & Poisons Appendix F

Hydrochloric acid (CAS 7647-01-0)

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 5

Hydrochloric acid (CAS 7647-01-0)

Australia Medicines & Poisons Schedule 6

Hydrochloric acid (CAS 7647-01-0)

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Hydrochloric acid (CAS 7647-01-0)	10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)

Hydrochloric acid (CAS 7647-01-0)	10000 - 99999 TONNES See the regulation for additional information.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10, as amended)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Hydrochloric acid (CAS 7647-01-0)	2000 TONNES/YR Threshold Category: 2B 400 TONNES/YR Threshold Category: 2A

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

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Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	06-December-2020
Revision date	19/02/2023
Key abbreviations or acronyms used	AICIS: Australian Inventory of Industrial Chemicals.
References:	No data available
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.
Revision information	Other information: Disclaimer GHS: Classification