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Revision Number 2

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product identifier****Product Name** CLP-MS-SPK**Other means of identification****Product Description** 200 µg/mL: Al, Ba; 50 µg/mL: Co, Mn, Ni, V, Zn; 25 µg/mL: Cu; 20 µg/mL: Cr; 10 µg/mL: Sb;
5 µg/mL: Ag, Be, Cd, Tl; 4 µg/mL: As; 2 µg/mL: Pb; 1 µg/mL: Se**Recommended use of the chemical and restrictions on use****Recommended Use** Laboratory chemicals**Restriction on Use** No information available**Details of the supplier of the safety data sheet**

Company	Inorganic Ventures 300 Technology Drive Christiansburg, VA 24073 Phone: 1(800) 669-6799 Email: info@inorganicventures.com	E-mail Address	info@inorganicventures.com
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Emergency telephone number**Emergency Telephone** Chemtrec 1-800-424-9300 (US)
+34.678750066**Section 2: HAZARDS IDENTIFICATION****Classification**

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1A

Label Elements**Danger****Hazard statements**Causes skin irritation
Causes serious eye irritation
May cause cancer

**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

Eyes

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

IF ON SKIN: Wash with plenty of water and soap
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Information

Toxic to aquatic life

Unknown acute toxicity 3.50001 % of the mixture consists of ingredient(s) of unknown toxicity

3.50001 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

3.50001 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

3.50001 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

1E-05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

1E-05 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)

Nitric acid	7697-37-2	3.5	-	
Aluminum Nitrate, Nonahydrate	7784-27-2	0.27806	-	

Section 4: FIRST AID MEASURES

Description of first aid measures

General advice	IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	No information available.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

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

Methods for cleaning up Pick up and transfer to properly labeled containers.

Section 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Exposure Limits

Chemical name	Alberta	British Columbia	Ontario TWAEV	Quebec
Nitric acid 7697-37-2	TWA: 2 ppm TWA: 5.2 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³	TWA: 2 ppm STEL: 4 ppm	TWA: 2 ppm STEL: 4 ppm	TWA: 2 ppm TWA: 5.2 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³
Aluminum Nitrate, Nonahydrate 7784-27-2	TWA: 2 mg/m ³			TWA: 5 mg/m ³

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	clear /tan
Odor	No information available
Odor threshold	No information available

<u>Property</u>	<u>Values</u>
Melting point / freezing point	No data available

Flash point	No data available
Flammability	No data available
Upper flammability or explosive limits	No data available
Lower flammability or explosive limits	No data available

Vapor pressure	No data available
Relative Density	No information available

Partition coefficient: n-octanol/water No data available

Hyphen	No data available
Dynamic viscosity	No data available

Other information

Explosive properties	No information available.
Oxidizing properties	No information available.
Softening point	No information available
Molecular Weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

pH	No data available
Initial boiling point and boiling range	100 °C / 212 °F
Evaporation rate	No data available
Flammability Limit in Air	

Relative vapor density	No data available
Water solubility	Miscible
Solubility in other solvents	
Autoignition temperature	No data available
Kinematic viscosity	No data available
None known	

Section 10: STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to Avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	Nitrogen oxides (NOx). Hydrogen fluoride.

Section 11: TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
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Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

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

ATEmix (oral) 99,999.00 mg/kg
 ATEmix (dermal) 99,999.00 mg/kg
 ATEmix (inhalation-gas) 99,999.0000 mg/l
 ATEmix (inhalation-dust/mist) 14.3143 mg/l
 ATEmix (inhalation-vapor) 92.040 mg/l

Unknown acute toxicity 3.50001 % of the mixture consists of ingredient(s) of unknown toxicity

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Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric acid 7697-37-2	-	-	= 2500 ppm (Rat) 1 h
Aluminum Nitrate, Nonahydrate 7784-27-2	= 542.5 mg/kg (Rat)	-	-

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

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Classification based on data available for ingredients.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Nitric acid 7697-37-2	-	Group 1 - Carcinogenic to humans Group 2A - Probably carcinogenic to humans	-	Present
Aluminum Nitrate, Nonahydrate 7784-27-2	-	Group 2A - Probably carcinogenic to humans	-	Present

Legend

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ effects	Skin, Eyes, Respiratory system.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION**Ecotoxicity**

Persistence and Degradability No information available.

Bioaccumulation No information available.

Component Information

Chemical name	Partition coefficient
Nitric acid 7697-37-2	-2.3

Section 13: DISPOSAL CONSIDERATIONS**Waste treatment methods**

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION**IMDG**

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Marine Pollutant	None
14.6. Special Provisions	None
No information available in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Transport No information available

RID

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

ADR

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

ICAO

14.1. UN-No	UN3264
14.2. Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Hazard Class	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

IATA-DGR

14.1. UN-No	UN3264
14.2. Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s
14.3. Transport hazard class(es)	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AIIC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU 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

Section 16: OTHER INFORMATION

NFPA	Health hazards 2	Flammability 0	Instability 0	Physical and chemical properties -
HMIS	Health hazards 2 *	Flammability 0	Physical hazards 0	Personal protection X

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

LEG8 Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

LEGTWA	TWA (time-weighted average)	LEGST	STEL (Short Term Exposure Limit)
LEGC	Maximum limit value	LEGSKN	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 RTECS (Registry of Toxic Effects of Chemical Substances)
 World Health Organization

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Revision Note No information available.

Disclaimer

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End of SDS