SAFETY DATA SHEET

Issuing Date 20-Feb-2015 **Revision Date** 20-Feb-2015 **Revision Number** 1

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name CLP-MS-SPK

Product Description 200 µg/mL ea: Al, Ba; 50 µg/mL ea: Co, Mn, Ni, V, Zn; 25 µg/mL Cu; 20 µg/mL Cr3; 10 µg/mL Sb; 5 µg/mL ea: Ag, Be, Cd, Tl; 4 µg/mL As; 2 µg/mL Pb; 1 µg/mL Se

Contains Nitric acid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Company
Inorganic Ventures
300 Technology Drive
Christiansburg, VA 24073
web: www.inorganicventures.com

E-mail Address info@inorganicventures.com

1.4. Emergency telephone number

Chemtrec 1-800-424-9300 (US)

+34.678750066

Europe	**See above**

Section 2. Hazards identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)
C - Corrosive

R-code(s)
C;R34 - R52/53

GHS

Skin Corrosion/Irritation	Category 1 Sub-category B - (H314)
Chronic aquatic toxicity	Category 2 - (H411)

For the full text of the R phrases mentioned in this Section, see Section 16

2.2. Label Elements

Product identifier
Contains Nitric acid

Signal Word
Danger

Hazard Statements
H314 - Causes severe skin burns and eye damage
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician

2.3. Other information

Other hazards Toxic to aquatic life
Inhalation of vapors in high concentration may cause irritation of respiratory system
Aspiration may cause pulmonary edema and pneumonitis

Section 3. Composition/information on ingredients

3.1 Substances

Chemical Name	EC No.	CAS-No	Weight %	Classification	EU - GHS Substance Classification	REACH Reg
Nitric acid	EEC No. Present	7697-37-2	5	C; R35 O; R8	Skin Corr. 1A (H314) Ox. Liq. 3 (H272)	No data avail

For the full text of the R phrases mentioned in this Section, see Section 16

For the full text of the H-Statements mentioned in this Section, see Section 16

Section 4. First aid measures

4.1. Description of first-aid measures

General Advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation Call a physician or Poison Control Center immediately. Move to fresh air. If breathing is difficult, give oxygen. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Skin Contact Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Eye Contact Immediate medical attention is required. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Ingestion Immediate medical attention is required. Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

4.2. Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects Burn. Difficulty breathing.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure

Section 5. Fire-fighting measures

5.1. Extinguishing media

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

Unsuitable Extinguishing Media
No information available

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions
Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment. Do not get in eyes, on skin, or on clothing.

Advice for emergency responders
Ensure adequate ventilation.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas. Should not be released into the environment.

6.3. Methods and materials for containment and cleaning up

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

Methods for Cleaning Up Take up mechanically and collect in suitable container for disposal.

6.4. Reference to other sections

See Section 12: ECOLOGICAL INFORMATION.

Section 7. Handling and storage

7.1. Precautions for Safe Handling

Technical measures/Precautions
Ensure adequate ventilation.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Precautions
Keep container tightly closed in a dry and well-ventilated place.

Section 8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits .

Chemical Name	EU	The United Kingdom	France	Spain	Germany
Nitric acid 7697-37-2	STEL 1 ppm STEL 2.6 mg/m^3	STEL: 1 ppm STEL: 2.6 mg/m^3	STEL: 1 ppm STEL: 2.6 mg/m^3	STEL: 1 ppm STEL: 2.6 mg/m^3	TWA: 1 ppm TWA: 2.6 mg/m^3

Component	Italy	Portugal	The Netherlands	Finland	Denmark
Nitric acid 7697-37-2 (5)	STEL: 1 ppm STEL: 2.6 mg/m^3	STEL: 4 ppm TWA: 2 ppm	STEL: 1.3 mg/m^3	TWA: 0.5 ppm TWA: 1.3 mg/m^3 STEL: 1 ppm STEL: 2.6 mg/m^3	

Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Nitric acid 7697-37-2	STEL 1 ppm STEL 2.6 mg/m^3	STEL: 2 ppm STEL: 5 mg/m^3 TWA: 2 ppm TWA: 5 mg/m^3	STEL: 2.6 mg/m^3 TWA: 1.4 mg/m^3	TWA: 2 ppm TWA: 5 mg/m^3 STEL: 4 ppm STEL: 10 mg/m^3	STEL: 1 ppm STEL: 2.6 mg/m^3

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.
Hand Protection Impervious gloves.
Skin and Body Protection Impervious clothing. Boots. Chemical resistant apron.

Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.
Environmental Exposure Controls	No information available.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear / Tan
Odor	Odorless

Property	**Values**
pH VALUE	No data available
Melting Point/Range	No data available
Boiling Point/Range	100 °C
Flash Point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	No data available
Specific Gravity	No data available
Water Solubility	Miscible
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other information

VOC Content	No information available.

Section 10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical Stability

Stable under normal conditions.

Explosion Data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

10.3. Possibility of Hazardous Reactions

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

10.4. Conditions to Avoid

None known.

10.5. Incompatible materials

Reducing agents

10.6. Hazardous Decomposition Products

Nitrogen oxides (NOx). Hydrogen fluoride.

Section 11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Product Information The product causes burns of eyes, skin and mucous membranes.

Inhalation Causes burns. Corrosive to respiratory system. Inhaled corrosive substances can lead to a toxic edema of the lungs. Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. Aspiration may cause pulmonary edema and pneumonitis.

Eye Contact Causes burns.

Skin Contact Causes burns.

Ingestion Can burn mouth, throat, and stomach.

Unknown Acute Toxicity 0.004% 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 (inhalation-dust/mist) 436.00 mg/L
ATEmix (inhalation-vapor) 1,340.00 mg/L

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid			= 130 mg/m³ (Rat) 4 h = 67 ppm (Rat) 4 h

Skin corrosion/irritation No information available.

Eye damage/irritation No information available.

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenic effects No information available.

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

12.1. Toxicity

Toxic to aquatic life with long lasting effects

0.065% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Nitric acid		72: 96 h Gambusia affinis mg/L LC50	

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential.

No information available.

Chemical Name	Log Pow
Nitric acid	-2.3

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects.

Section 13. Disposal considerations

13.1. Waste treatment methods

Waste from Residues/Unused Products Dispose of in accordance with federal, state and local regulations. Should not be released into the environment.

Contaminated Packaging Do not re-use empty containers.

Other Information According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

Section 14. Transport information

IMDG/IMO

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. Marine Pollutant None.

14.6. Special Provisions None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

RID

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

ADR

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

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. Hazard Class	8
14.4. Packing Group	III
Description	Not applicable
14.5. Environmental hazard	None
14.6. Special Provisions	None

Section 15. Regulatory information

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

International Inventories

All of the components in the product are on the following Inventory lists: U.S.A. (TSCA), Europe (EINECS/ELINCS/NLP), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), China (IECSC), Australia (AICS), Korea (ECL).

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDSL	Complies
PICCS	Complies
ENCS	Complies
IECSC	Complies
AICS	Complies
KECL	Complies

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment

No information available

Section 16. Other information

Full text of R-phrases referred to under sections 2 and 3
R35 - Causes severe burns
R8 - Contact with combustible material may cause fire
R34 - Causes burns
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under section 3
H314 - Causes severe skin burns and eye damage
H272 - May intensify fire; oxidizer

Revision Date 20-Feb-2015

Reason for Revision Not applicable.

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet