

HI Card Max, MXC56789

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Substance key: SC0000104809

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Version : 3 - 1 / USA

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SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 4000 Monroe Road Charlotte, NC, 28205 Telephone No.: +1 704 331 7000
	Information of the substance/preparation: Product Stewardship, +1-704-331-7710
	Emergency tel. number: +1 800-424-9300 CHEMTREC

Trade name: HI Card Max, MXC56789**Material number:** 248763**Primary product use:** Indicator for air humidity**Chemical family:** Inorganic salts on cardboard.**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with 29 CFR 1910.1200**

Eye irritation : Category 2A

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Carcinogenicity (Inhalation) : Category 1B

Reproductive toxicity : Category 1B

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350i May cause cancer by inhalation.
H360F May damage fertility.

Precautionary statements : **Prevention:**

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P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285 In case of inadequate ventilation wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No additional hazards are known except those derived from the labelling.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Sulfuric acid, zinc salt (1:1), heptahydrate	7446-20-0	1 - 5
Potassium iodide	7681-11-0	0.1 - 1
Cobalt dichloride	7646-79-9	0.1 - 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

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- General advice : Take off all contaminated clothing immediately.
Show this safety data sheet to the doctor in attendance.
- If inhaled : INHALATION: If exposed to excessive levels of dust or fumes, remove to fresh air and get medical attention. Get medical attention if cough and other symptoms develop.
Remove to fresh air.
- In case of skin contact : Avoid contact with skin.
Wash area with mild soap and copious amounts of water.
Remove contaminated clothing and shoes.
Wash clothing before reuse.
If skin irritation occurs: Get medical advice/ attention.
- In case of eye contact : Do not rub affected area.
Rinse immediately with plenty of lukewarm water, also under the eyelids, for at least 15 minutes.
Obtain medical attention.
- If swallowed : Do NOT induce vomiting.
Call your local Poison Control Center (In the U.S. call 1-800-222-1222).
- Most important symptoms and effects, both acute and delayed : The possible symptoms known are those derived from the labelling (see section 2).
No additional symptoms are known.
- Notes to physician : Chronic ingestion may cause blood abnormalities (polycythemia), increased clotting time, hyperplasia of the bone marrow and thyroid gland, cardiomyopathy, and damage to the pancreas in sensitive individuals.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Dry powder
Foam
Carbon dioxide (CO₂)
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during firefighting : In case of fire can be formed: breathable cobalt/cobalt oxide dust
- Further information : Wear full protective clothing and NIOSH/MSHA-approved positive pressure, self-contained breathing apparatus.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation.
Avoid dust formation.
Use personal protective equipment.
Avoid contact with skin, eyes and clothing.
Wearing appropriate personal protective equipment, contain spill and collect into a suitable container.
No special precautions required.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
- Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Wash thoroughly after handling.
Use only with adequate ventilation and proper protective eyewear, gloves, and clothing.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Minimize dust generation and accumulation.
Do NOT grind, slice, sand, scrape or otherwise break this product.
Avoid dust formation.
Avoid contact with/or the inhalation of dusts from this product.
- Conditions for safe storage : Keep tightly closed in a dry and cool place.
- Further information on storage conditions : Store in a dry place.
- Materials to avoid : No materials to be especially mentioned.
- Further information on storage stability : Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Cobalt dichloride	7646-79-9	TWA	0.02 mg/m ³ (Cobalt)	ACGIH

Engineering measures : none

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Personal protective equipment

- Respiratory protection : Follow facility guidelines.
- Hand protection
Remarks : Wear protective gloves. Wash thoroughly after handling.
- Eye protection : Follow facility guidelines in the absence of dusts.
- Skin and body protection : Use of proper hygiene practices in the workplace is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Plates
- Colour : blue
- Odour : none
- Odour Threshold : no data available
- pH : no data available
- Melting point : not determined
- Boiling point : Not applicable
- Flash point : no data available
- Evaporation rate : no data available
- Flammability (solid, gas) : not determined
- Self-ignition : not tested.
- Burning number : not determined
- Upper explosion limit / upper flammability limit : no data available
- Lower explosion limit / Lower flammability limit : no data available
- Vapour pressure : no data available
- Relative vapour density : no data available
- Relative density : not tested.
- Density : no data available
- Bulk density : no data available

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Solubility(ies)	
Water solubility	: partly soluble
Solubility in other solvents	: not tested.
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Decomposition temperature	: no data available
Viscosity	
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Flow time	: Not applicable
Explosive properties	: no data available
Oxidizing properties	: not tested.
Sublimation point	: not determined
Minimum ignition energy	: not tested.
Particle size	: not tested.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Stable
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: None known.
Conditions to avoid	: Exposure to moisture (hygroscopic).
Incompatible materials	: Water
Hazardous decomposition products	: No decomposition if stored and applied as directed.

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SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Eye contact

Skin contact

Ingestion

Acute toxicity**Product:**Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : Remarks: no data available

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate:**Acute oral toxicity : LD50 (Rat): 2,150 mg/kg
LD50 (Rat): 920 - 4,725 mg/kg

Acute inhalation toxicity : Remarks: Not classified due to data which are conclusive although insufficient for classification.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Not classified due to data which are conclusive although insufficient for classification.**Potassium iodide:**Acute oral toxicity : LD50 (Rat, male and female): 2,484 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : Remarks: no data available

Acute dermal toxicity : Remarks: no data available

Skin corrosion/irritation**Product:**

Remarks: no data available

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate:**

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

Potassium iodide:

Result: No skin irritation

Serious eye damage/eye irritation**Product:**

Remarks: Eye irritation

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Result: Risk of serious damage to eyes.

Potassium iodide:

Result: No eye irritation

Respiratory or skin sensitisation**Product:**

Result: May cause sensitisation by skin contact.

Result: May cause sensitisation by inhalation.

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Remarks: Not classified due to data which are conclusive although insufficient for classification.

Assessment: Harmful if swallowed., Causes serious eye damage.

Potassium iodide:

Remarks: no data available

Germ cell mutagenicity**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**

Germ cell mutagenicity - : No information available.

Assessment

Potassium iodide:

Germ cell mutagenicity - : In vitro tests did not show mutagenic effects

Assessment

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Carcinogenicity**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**

Carcinogenicity - Assessment : No information available.

Potassium iodide:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

IARC

Group 2B: Possibly carcinogenic to humans

Cobalt dichloride 7646-79-9

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**Reproductive toxicity - Assessment : No information available.
No information available.**Potassium iodide:**

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT - single exposure**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**

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

Potassium iodide:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**

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

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Potassium iodide:

Exposure routes: Oral

Target Organs: thymus gland

Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**

Repeated dose toxicity - : Harmful if swallowed., Causes serious eye damage.

Assessment

Potassium iodide:

Species: Rat, male and female

NOAEL: 0,5 mg/m³

Application Route: Oral

Aspiration toxicity**Components:****Sulfuric acid, zinc salt (1:1), heptahydrate :**

no data available

Potassium iodide:

No aspiration toxicity classification

Experience with human exposure**Product:**

General Information : The possible symptoms known are those derived from the labelling (see section 2).

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Inhalation : Symptoms: respiratory tract irritation, Shortness of breath, Cough

Skin contact : Symptoms: Local irritation, Redness

Ingestion : Symptoms: Abdominal pain, Diarrhoea, Vomiting

Further information**Product:**

Remarks: No data is available on the product itself.

Handle in accordance with good industrial hygiene and safety practice.

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SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**Toxicity to fish :
Remarks: no data availableToxicity to daphnia and other :
aquatic invertebrates Remarks: no data availableToxicity to algae/aquatic :
plants Remarks: no data available

Toxicity to microorganisms : Remarks: no data available

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Toxicity to fish : Remarks: no data available

Toxicity to daphnia and other : EC50 (Ceriodaphnia dubia (water flea)): 1.82 mg/l
aquatic invertebrates Exposure time: 48 h
Method: OtherToxicity to algae/aquatic : EC50 (Selenastrum capricornutum (green algae)): 0.6 mg/l
plants Exposure time: 72 h
Method: OECD Test Guideline 201**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : May cause long-term adverse effects in the aquatic environment.

Potassium iodide:Toxicity to fish : (Oncorhynchus mykiss (rainbow trout)): 896 mg/l
Exposure time: 96 hToxicity to daphnia and other : (Daphnia magna (Water flea)): 7.5 mg/l
aquatic invertebrates Exposure time: 48 h
Method: OECD Test Guideline 202**Persistence and degradability****Product:**

Biodegradability : Remarks: no data available

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Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Potassium iodide:

Biodegradability : Remarks: Not applicable

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: no data available

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Bioaccumulation : Remarks: Not relevant for inorganic substances

Mobility in soil**Product:**

Distribution among environmental compartments : Remarks: no data available

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**Distribution among environmental compartments : Medium: water - soil
Kd: 158.5 ml/g**Other adverse effects****Product:**

Additional ecological information : obviously hazardous to water

Components:**Sulfuric acid, zinc salt (1:1), heptahydrate :**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Additional ecological information : Do not allow to enter drains or waterways

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SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

RCRA - Resource Conservation and Recovery Act
Waste Code : This product, if discarded as sold, is not a Federal RCRA hazardous waste.

Waste Code : NONE

Waste from residues : This product, if discarded as sold, is not a Federal RCRA hazardous waste. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Contaminated packaging : Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT not restricted

IATA not restricted

IMDG not restricted

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know Act****CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Sulfuric acid, zinc salt (1:1), heptahydrate	7446-20-0	1000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Serious eye damage or eye irritation
Respiratory or skin sensitisation
Carcinogenicity
Reproductive toxicity

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

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Sulfuric acid, zinc salt (1:1), heptahydrate	7446-20-0	1 - 5 %
Cobalt Compounds	Not Assigned	0.1 - 1 %
Cobalt	7440-48-4	0.46 %

Clean Water Act

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

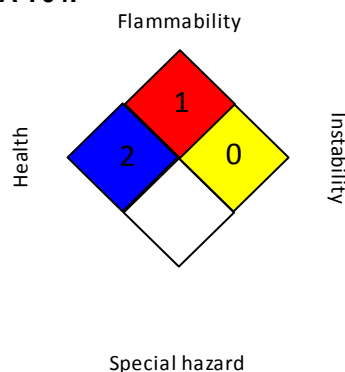
The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory, All components are compliant with the TSCA Inventory Notification (Active) rule.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -

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International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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