

SAFETY DATA SHEET

1. Identification

Product name : PLATE CLEAN C

Other means of identification : No information.

Name of manufacture : HISAKA WORKS, LTD.

Name of section : HEAT EXCHANGER DIV. MANUFACTURING DEPT.
KONOIKE PLANT

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Form number : MSDS-001

Recommended use of the chemical and restrictions on use
: Scale remover

2. Hazards identification

GHS Classification: Classification of the chemical in accordance with paragraph (d) of § 1910.1200.

Physical hazards	: Flammable solid	: Not classified
Health hazards	: Acute toxicity (Oral)	: Not classified
	Acute toxicity (Dermal)	: Classification not possible
	Acute toxicity (Inhalation)	: Classification not possible
	Skin corrosion/irritation	: Category 1
	Serious eye damage/eye irritation	: Category 1
	Respiratory sensitization	: Classification not possible
	Skin sensitization	: Classification not possible
	Germ cell mutagenicity	: Not classified
	Carcinogenicity	: Classification not possible
	Reproductive toxicity	: Classification not possible
	Specific target organ toxicity (Single exposure)	: Classification not possible
	Specific target organ toxicity (Repeated exposure)	: Classification not possible
	Aspiration hazard	: Classification not possible

Environmental hazards	: Hazardous to the aquatic environment (Acute hazard)	: Category 3
	Hazardous to the aquatic environment (Long-term hazard)	: Category 3
	Hazardous to the ozone Layer	: Classification not possible
(Note)	: Hazard identifications without mention are classified as classification not applicable or classification not possible.	
GHS label elements		
Symbols	:	
Signal word	:	Danger
Hazard statement	Causes severe skin burns and eye damage Causes serious eye damage Harmful to aquatic life Harmful to aquatic life with long lasting effects	
Precautionary statement	:	
[Prevention]	:	Do not breathe dust or mists. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
[Response]	:	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. If inhaled: Remove victim to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
[Storage]	:	Store locked up.
[Disposal]	:	Dispose of contents/container to in according with local/regional/international regulation.
Describe any hazards not otherwise classified	:	No information.

3. Composition/information on ingredients

Substance /Mixture : Mixture

Ingredients and composition:

Chemical name	Composition (%)	Chemical formula	CAS No.
Sulfamic acid	>90	NH ₂ SO ₃ H	5329-14-6

4. First-aid measures

Necessary first-aid measures by relevant routes of exposure

- Inhalation : Remove the victim from the contamination immediately to fresh air.
If breathing is weak, irregular or has stopped, open his/her airway, loosen his/her collar and belt and administer artificial respiration.
Get medical attention.
- Skin contact : Remove all contaminated clothing.
Wash the affected area with plenty of water with mild soap.
Immediately get medical attention.
- Eye contact : Gently rinse the affected eyes with clean water for at least 15 minutes.
Ask the victim to look up, down and side-to-side in order to better reach all parts of eyes.
Immediately get medical attention.
- Ingestion : Do not induce vomiting. Rinse mouth.
Refer for medical attention.
- Most important symptoms/ effects, acute and delayed : Causes severe skin burns and eye damage. Causes serious eye damage.
- Protection for first aider : Wear protective gloves/protective clothing/eye protection/face protection.
- Indication of immediate medical attention and special treatment needed, if necessary. : Treat symptoms and eliminate exposure.

5. Fire-fighting measures

- Suitable extinguishing media : Dry chemical powder, carbon dioxide, foam, dry sand
- Unsuitable extinguishing media : Nothing special
- Specific hazards arising from the chemical : Toxic gases (Carbon monoxide, Sulfur oxides, formic acid etc.) may form upon combustion.
- Special protective equipment and precautions for fire-fighters : Firefighters should wear proper protective equipment and self-breathing apparatus.
Move containers to safe area if possible.
Apply water from a safe distance to cool and project surrounding area.

6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe area. Evacuate non-essential personnel.
Wear proper protective equipment.
- Environmental precautions : Do not wash away into sewers, watercourses or rivers.
- Method and materials for containment and cleaning up : Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Cautiously neutralize remainder.
Then wash away with plenty of water.

7. Handling and storage

- Precaution for safe handling : In case of handling, wear proper protective equipment to avoid contact and inhalation.
Use local exhaust ventilation.
Wash hands and face with plenty of water using soap after work.
- Conditions for safe storage : Keep containers tightly closed and store in a cool, dark, well-ventilated location.
Keep away from heat, flame, ignition source, sunlight, moisture, water.
- Incompatible materials : Strong base, nitrous acid, active chlorine compound, chlorine-based agent, fuming nitric acid
- Container material : polyethylene bag

8. Physical and chemical properties

Occupational Exposure Limits

- US OSHA : Not established
- ACGIH : Not established
- Appropriate engineering controls : Use this product only in a totally enclosed systems or with local exhaust ventilation.
Make available in the work area with emergency shower and eye washer.

Individual protection measures, such as personal protective equipment

- Respiratory protection : Protective mask, air-supplied respirator, self-contained breathing apparatus, gas mask
- Eye protection : Safety goggles or face shield
- Hand, skin and body protection : Chemical-resistant gloves (rubber gloves and nitrile gloves over latex gloves), impervious boots and apron, full-body suit
Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS.
If necessary, refer to U.S.OSHA 29 CFR 1910.138, appropriate Standards of Canada or the European Standard CENTER 15419:2006.

Hand, skin and body protection : The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.

9. Physical and chemical properties

Appearance : White powder
Odor : No data
Odor threshold : No data
pH : 0.4 (10% w/w aqueous solution)
Melting point/freezing point : No data
Initial boiling point and boiling range : No data
Flash point : No data
Evaporation rate : No data
Flammability (solid, gas) : No data
Upper/lower flammability or explosive limits : No data
Vapor pressure : No data
Vapor density : No data
Relative density : No data
Solubility(ies); : Soluble in water
Partition coefficient: : No data
n-octanol/water
Auto-ignition temperature : No data
Decomposition temperature : No data
Viscosity : No data

10. Stability and reactivity

Reactivity : Stable under recommended storage conditions.
Chemical stability : Stable under recommended storage conditions.
Possibility of hazardous reactions : Decomposes on heating and on burning. This produces toxic and corrosive fumes including nitrogen oxides and sulfur oxides. The solution in water is strong acidic. It reacts violently with bases and is corrosive. Reacts violently with chlorine and fuming nitric acid. This generates explosion hazard. Reacts slowly with water. This produces ammonium bisulfate.
Conditions to avoid : Direct sunlight, moisture, water, heating
Incompatible materials : Strong base, nitrous acid, active chlorine compound, chlorine-based agent, fuming nitric acid
Hazardous decomposition products : Carbon monoxide, Sulfur oxides, formic acid etc.

11. Toxicological information

Information of ingredients:

Acute toxicity	: Oral LD ₅₀ (rat) >2000 mg/kg (Sulfamic acid) ²⁾
	LD ₅₀ : Lethal dose 50% kill
Skin corrosion/irritation	: The product causes severe skin burns because of a strong acid. Sulfamic acid causes moderate skin irritation. ²⁾
Serious eye damage/eye irritation	: The product causes serious eye damage because of a strong acid. Sulfamic acid causes moderate or severe eye irritation. ²⁾
Respiratory sensitization	: No relevant information found.
Skin sensitization	: No relevant information found.
Germ cell mutagenicity	: Sulfamic acid showed negative by germ cell mutagenicity test. ²⁾
Carcinogenicity	: IARC Not listed. NTP Not listed. OSHA Not listed.
Reproductive toxicity	: No relevant information found.
Specific target organ toxicity—Single exposure	: No relevant information found.
Specific target organ toxicity—Repeated exposure	: No relevant information found.
Aspiration hazard	: No relevant information found.
Delayed and immediate effects and also chronic effects from short-and long-term exposure	: Causes severe skin burns and eye damage. Causes serious eye damage.
Numerical measures of toxicity (such as acute toxicity estimates)	: No relevant information found.

12. Ecological information

Ecotoxicity	: Sulfamic acid is harmful to aquatic life. ²⁾ ·Fathead minnow LC ₅₀ (96h) 70.3 mg/l (Sulfamic acid) ²⁾
Persistence and degradability	: Sulfamic acid is not rapidly-degradable. ²⁾
Bioaccumulative potential	: No relevant information found.
Mobility in soil	: No relevant information found.
Other adverse effects	: No relevant information found.

13. Disposal considerations

- : Entrust disposal of a large amount wastes to special authority or certificated processing supplier.
- Prior to disposal, perform detoxification such as neutralization and stabilization as possible to be a low state level of risk.

- : Dispose of the contaminated container and packing after removing extraneous matter thoroughly.
Do not dump into sewers, on the ground or into any body of water.
Follow all regulations in your country or region.

14. Transport information

- UN number : 2967
UN proper shipping name : Sulphamic acid
Transport hazard class(es) : 8
Packing group, if applicable : III
Marine pollutant : No
Any especial precaution on the transport or conveyance : Pile the container avoiding dangerous goods dropping, falling and damaging.
Check the container breaking, leakage and lid closing.
Prevent collapse of cargo piles surely.
Follow all regulations on the transport in your country or region.

15. Regulatory information

- TSCA inventory : Sulphamic acid is listed on the Inventory.
SARA (Section 313, 355) : None of the ingredients is listed.
Proposition 65
Chemicals known to cause cancer : None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females : None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males : None of the ingredients is listed.
Chemicals known to cause developmental toxicity : None of the ingredients is listed.
Follow all regulations on the transport in your countries or regions.

16. OTHER INFORMATION

- References : 1) Guide to occupational exposure values (ACGIH 2014)
2) GHS Classification Results (National Institute of Technology and Evaluation, Japan)

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Inquiry of the information : HISAKA WORKS,LTD.
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We reserve the right to revise SDS periodically as new information becomes available.