Safety Data Sheet
acc. to OSHA HCS

Printing date 05/16/2023 Reviewed on 04/27/2023

1 Identification

· **Product identifier**

· **Trade name:** CACD-C

· **Article number:** 4496
· **CAS Number:**
5329-14-6
· **EC number:**
226-218-8
· **Index number:**
016-026-00-0
· **Application of the substance / the mixture**
The product has many industrial, professional and consumer applications.
· **Uses advised against**
Processes involving extreme heat use advised against.
Processes involving the use of incompatible substances - refer to section 10.
Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
Any use involving significant release of dust, vapour or mist in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**

AP Tech
5130 Rialto Road
West Chester, Ohio 45069, USA
1-866-489-9831
info@aptechsolids.com

· **Information department:** Product safety department.
· **Emergency telephone number:**

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS07

Skin Irritation 2 H315 Causes skin irritation.
Eye Irritation 2A H319 Causes serious eye irritation.

· **Label elements**
· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS07
· **Signal word** Warning
· **Hazard statements**
Causes skin irritation.
Causes serious eye irritation.
· **Precautionary statements**
Do not breathe dust.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Collect spillage.

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· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 2
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 2
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
5329-14-6 Sulphamic acid
· **Identification number(s)**
· **EC number:** 226-218-8
· **Index number:** 016-026-00-0

4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
· **Information for doctor:** Treat symptomatically and supportively.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray.
Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet

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· **Special hazards arising from the substance or mixture**
Combustible
In case of fire, the following can be released:
Sulphur Oxides (SOx)
Ammonia
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.
· **Additional information** Freely soluble in water.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective clothing.
Keep ignition sources away - no smoking.
· **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course in the undiluted form.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**
9.5 mg/m³
· **PAC-2:**
100 mg/m³
· **PAC-3:**
630 mg/m³

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Prevent formation of dust.
Ensure good ventilation/exhaustion at the workplace.
Store in cool, dry place in tightly closed receptacles.
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.
Safety showers and eye wash facilities should be available at the work area.
Any deposit of dust which cannot be avoided must be regularly removed.
· **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Do not store in aluminium or galvanised containers.
Prevent any seepage into the ground.

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· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from metals.
Do not store together with alkalis (caustic solutions).
Store away from hypochlorous acid and hypochlorites.
Store away from cyanides.
Store away from sulphides.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from humidity and water.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:** Not required.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
Select PPE appropriate for the operations taking place taking into account the product properties.
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Do not breathe dust
Ensure that eyewash stations and safety showers are close to the workstation location.
· **Breathing equipment:**
Use suitable respiratory protective device in case of insufficient ventilation.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
· **Protection of hands:**

Protective gloves conforming to EN374.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles conforming to EN166.

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· **Body protection:**

Protective work clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solid
Color:	White
· **Odor:**	Odorless
· **Odor threshold:**	Not determined.
· **pH-value (10 g/l) at 20 °C (68 °F):**	1.2
· **Change in condition**	
Melting point/Melting range:	205 °C (401 °F)
Boiling point/Boiling range:	209(decomp.) °C (408.2(decomp.) °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Product is not flammable.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/dust mixtures are possible. Product does not present an explosion hazard.
· **Vapor pressure at 20 °C (68 °F):**	0.0078 hPa (0 mm Hg)
· **Density at 20 °C (68 °F):**	2.13 g/cm³ (17.77485 lbs/gal)
· **Bulk density at 20 °C (68 °F):**	600 kg/m³
· **Solubility in / Miscibility with Water:**	Easily soluble.
· **Other information**	NOTE: The physical data presented above are typical values and should not be construed as a specification.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
Decomposes with heat at 209□/408□ to release sulphur dioxide, sulphur trioxide, and ammonia gases.
· **Possibility of hazardous reactions**
Aqueous solution forms hydrogen in contact with some metals.
Reacts with chlorine.
Reacts with cyanides and sulphides to form toxic gases.
The solution in water is a strong acid, it reacts violently with bases and is corrosive.
Hazardous reaction in aqueous solution may occur with hypochlorous acid and hypochlorites.
Reacts violently with fuming nitric acid causing explosion hazard.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
Substances specificaly listed in section 10.3 as incompatible.
Strong oxidising agents.
Strong bases.

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· **Hazardous decomposition products:**
Nitrogen oxides (NOx)
Ammonia
Sulfur oxides (SOx)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
ATE (Acute Toxicity Estimate)		
Dermal	LD50	>2,000 mg/kg (rabbit)

5329-14-6 Sulphamic acid		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
ROUTES OF EXPOSURE: Can be absorbed into the body by inhalation and by ingestion.
INHALATION RISK: A harmful concentration of airborne particles can be reached quickly especially if powdered.
Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
Substance is not listed.

· **NTP (National Toxicology Program)**
Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
Substance is not listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
5329-14-6 Sulphamic acid	
EC50 (96 h)	70.3 mg/l (Fish)
EC50 (48 h)	71.6 mg/l (Daphnia)
EC50 (72 h)	48 mg/l (Algae)

· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** Product is not expected to bioaccumulate.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish

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· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Recommended Hierarchy of Controls:
- Minimize waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· **Uncleaned packagings:**
· **Recommendation:**
Disposal must be made according to official regulations.
Container remains hazardous when empty. Continue to observe all precautions.
Containers, even those that are “empty,” may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
Do not mix with other waste streams.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN2967
· **UN proper shipping name**	
· **DOT**	Sulfamic acid
· **ADR**	2967 Sulfamic acid
· **IMDG, IATA**	SULPHAMIC ACID
· **Transport hazard class(es)**	
· **DOT**	

· **Class**	8 Corrosive substances

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· **Label**	8
· **ADR, IMDG, IATA**	
	
· **Class**	8 Corrosive substances
· **Label**	8
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances
· **Hazard identification number (Kemler code):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	(SGG1) Acids
· **Stowage Category**	A
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **IMDG**	
· **Limited quantities (LQ)**	5 kg
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **UN "Model Regulation":**	UN 2967 SULFAMIC ACID, 8, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**
Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is not listed.

· **TSCA (Toxic Substances Control Act):**
ACTIVE

· **Hazardous Air Pollutants**
Substance is not listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
Substance is not listed.

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· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is not listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
Substance is not listed.

· **TLV (Threshold Limit Value)**
Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is not listed.

· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS07
· **Signal word** Warning
· **Hazard statements**
Causes skin irritation.
Causes serious eye irritation.
· **Precautionary statements**
Do not breathe dust.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Collect spillage.
· **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.
· **Contact:**
· **Date of preparation / last revision** 05/16/2023
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A