Safety Data Sheet
acc. to OSHA HCS

Printing date 07/31/2024 Reviewed on 07/31/2024

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1 Identification

· **Product identifier**

· **Trade name:** C100-G

· **Article number:** 6641
· **CAS Number:**
10222-01-2
· **EC number:**
233-539-7
· **Index number:**
607-747-00-7
· **Application of the substance / the mixture** Biocide
· **Uses advised against**
Processes involving extreme heat use advised against.
Processes where workers who may be pregnant or breastfeeding could potentially come into direct contact with the undiluted product.
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 aerosol, vapour or dust in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).
Processes involving the use of incompatible substances - refer to section 10.
The product is stictly intended for industrial or professional use only.

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

AP TECH
5130 Rialto Rd.
West Chester, OH 45069

· **Information department:** Product safety department.
· **Emergency telephone number:**
The American Association of Poison Control Centers (24-hour hotline): 1-800-222-1222
CHEMTREC: 800-424-9300 (Domestic North America) OR 703-527-3887 (International, collect calls accepted).

2 Hazard(s) identification

· **Classification of the substance or mixture**

Acute Toxicity - Oral 3	H301 Toxic if swallowed.
Acute Toxicity - Inhalation 2	H330 Fatal if inhaled.
Skin Irritation 2	H315 Causes skin irritation.
Eye Damage 1	H318 Causes serious eye damage.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Repeated Exposure 1	H372 Causes damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Label elements**
· **Hazard pictograms**

GHS05 GHS06 GHS07 GHS08

· **Signal word** Danger
· **Hazard statements**
H301 Toxic if swallowed.

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H330 Fatal if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H372 Causes damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.

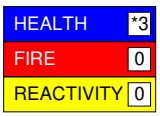
· **Precautionary statements**

P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P304+P312	IF INHALED: Call a POISON CENTER if you feel unwell.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.

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

Health = 4
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3
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**
10222-01-2 2,2-Dibromo-3-Nitrilo- Propionamide
· **Identification number(s)**
· **EC number:** 233-539-7
· **Index number:** 607-747-00-7
· **Additonal information:** Biocidal active substance

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4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
In case of inhalation:
- Provide fresh air.
- In case of breathing difficulties administer oxygen.
- No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus.
- Do not leave patient unattended.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

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· **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:**
No specific antidote.
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.

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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
· **Special hazards arising from the substance or mixture**
Toxic.
In case of fire, the following can be released:
Bromine compounds
Carbon monoxide (CO)
Nitrogen oxides (NOx)
· **Advice for firefighters**
· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
· **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.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Ensure adequate ventilation.
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:** Substance is not listed.
· **PAC-2:** Substance is not listed.

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· **PAC-3:** Substance is not listed.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of dust.
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.
· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Prevent any seepage into the ground.
Do not store in aluminium or galvanised containers.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
None.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **Storage class:** 6.1 B
· **Specific end use(s)** No further relevant information available.

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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:**
Do not breathe dust
Do not eat, drink, smoke or sniff while working.
A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.
Depending on the degree of exposure, periodic medical examination is suggested.
Ensure that eyewash stations and safety showers are close to the workstation location.
Pregnant women should strictly avoid inhalation or skin contact.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **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.

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· **Protection of hands:**

Protective gloves.
Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

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.

Use visor if handling dust.

· **Body protection:**

Protective work clothing

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

· **Limitation and supervision of exposure into the environment**
Do not allow to enter drains, sewers or watercourses.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Crystalline
Color:	White
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value (10 g/l) at 20 °C (68 °F):**	5 - 7
· **Change in condition**	
Melting point/Melting range:	124 °C (255.2 °F)
Boiling point/Boiling range:	decomp @ 190 °C (decomp @ 374 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Product is not flammable.
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.

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· **Vapor pressure:**	Not applicable.
· **Density at 20 °C (68 °F):**	1.5 g/cm³ (12.518 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with Water at 25 °C (77 °F):**	15 g/l
· **Partition coefficient (n-octanol/water):**	-6.3 log POW
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Other information**	NOTE: The physical data presented above are typical values and should not be construed as a specification.

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10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
To avoid thermal decomposition do not overheat.
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** Heat and static discharge.
· **Incompatible materials:**
Strong oxidising agents.
Strong acids.
Strong bases.
Reducing agents.
Finely powdered metals.
· **Hazardous decomposition products:**
Bromine
Hydrogen bromide
Bromine compounds
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

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11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	118 mg/kg (ATE)
		118 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.24 mg/l (ATE)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**

· **Carcinogenic categories**
· **IARC (International Agency for Research on Cancer)** Substance is not listed.
· **NTP (National Toxicology Program)** Substance is not listed.

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· **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - single exposure**
Based on available data, the classification criteria are not met.
· **Specific target organ toxicity - repeated exposure**
Causes damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** Not easily biodegradable
· **Behavior in environmental systems:**
· **Bioaccumulative potential** Product is not expected to bioaccumulate.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Very toxic for aquatic organisms
Water hazard class 3 (Assessment by list): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

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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.

· **Uncleaned packagings:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Do not mix with other waste streams.
Container remains hazardous when empty. Continue to observe all precautions.
Containers, even those that are “empty,” may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.
Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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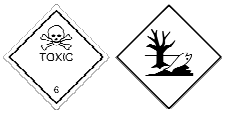
14 Transport information

· **UN-Number**	
· **DOT, ADR/RID/ADN, IMDG, IATA**	UN2811
· **UN proper shipping name**	
· **DOT**	Toxic solids, organic, n.o.s. (2,2-Dibromo-3-Nitrilo-Propionamide)
· **ADR/RID/ADN**	UN2811 TOXIC SOLID, ORGANIC, N.O.S. (2,2-Dibromo-3-Nitrilo- Propionamide), ENVIRONMENTALLY HAZARDOUS
· **IMDG**	TOXIC SOLID, ORGANIC, N.O.S. (2,2-Dibromo-3-Nitrilo- Propionamide), MARINE POLLUTANT
· **IATA**	TOXIC SOLID, ORGANIC, N.O.S. (2,2-Dibromo-3-Nitrilo- Propionamide)
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **ADR/RID/ADN**	
· **Class**	6.1 (T2) Toxic substances
· **Label**	6.1
· **IMDG**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **IATA**	
· **Class**	6.1 Toxic substances
· **Label**	6.1
· **Packing group**	
· **DOT, ADR/RID/ADN, IMDG, IATA**	II
· **Environmental hazards:**	Environmentally hazardous substance, solid; Marine Pollutant
· **Marine pollutant:**	No Yes (DOT) Symbol (fish and tree)
· **Special marking (ADR/RID/ADN):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Toxic substances
· **Hazard identification number (Kemler code):**	60
· **EMS Number:**	F-A,S-A

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· **Stowage Category**	B
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Remarks:**	Special marking with the symbol (fish and tree).
· **ADR/RID/ADN**	
· **Excepted quantities (EQ)**	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· **IMDG**	
· **Limited quantities (LQ)**	500 g
· **Excepted quantities (EQ)**	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· **UN "Model Regulation":**	UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (2,2-DIBROMO-3-NITRILO- PROPIONAMIDE), 6.1, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**
· **Section 355 (extremely hazardous substances):** Substance is not listed.
· **Section 313 (Specific toxic chemical listings):** Substance is 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.
· **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**

GHS05 GHS06 GHS07 GHS08

· **Signal word** Danger
· **Hazard statements**
H301 Toxic if swallowed.
H330 Fatal if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H372 Causes damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.

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· **Precautionary statements**

P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P304+P312	IF INHALED: Call a POISON CENTER if you feel unwell.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.

· **National regulations:**

· **Information about limitation of use:**

Class	Share in %
I	100.0

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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** 07/31/2024 / 5
· **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
Acute Toxicity - Oral 3: Acute toxicity – Category 3
Acute Toxicity - Inhalation 2: Acute toxicity – Category 2
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1
Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1
· *** Data compared to the previous version altered.**