Safety Data Sheet
Dissolved Ozone Electrolyte

SECTION 1: Identification

1.1 Product identifier

Product name	Dissolved Ozone Electrolyte

1.2 Other means of identification
Part number 09-0008

1.3 Recommended use of the chemical and restrictions on use
For use with ATI Dissolved Ozone sensor only.

1.4 Supplier's details

Name	Badger Meter Collegeville
Address	6 Iron Bridge Drive Collegeville, PA 19426 USA
Telephone	610-917-0991

1.5 Emergency phone number(s)
1-800-424-9300 - Chemtrec

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (29 CFR 1910.1200)

- Eye damage/irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity (single exposure), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word **Warning**

Hazard statement(s)

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Precautionary statement(s)

P261	Avoid breathing mist/vapors/spray.
P264	Wash hands and exposed skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.

P280	Wear eye protection/face protection/protective gloves.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P312	Call a POISON CENTER/doctor if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in classification

Exposure to this product may aggravate pre-existing eye, skin, or respiratory conditions.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Hazardous Components

Component	Concentration
Potassium Bromide (CAS no.: 7758-02-3)	**10 - 15 % (weight)**
Hydrochloric Acid (CAS no.: 7647-01-0)	**<1 % (weight)**
Water	**84 - 89 % (weight)**

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	Remove to fresh air and promote deep breathing. Get medical attention if effects persist.
In case of skin contact	Wash with plenty of soap and water. Get medical attention if irritation or rash develops or persists.
In case of eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, get medical attention.
If swallowed	Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Personal protective equipment for first-aid responders

	Refer to Section 8 for specific personal protective equipment recommendations. Avoid contact with skin and eyes. Do not ingest. Do not breathe vapors or spray mist.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

If inhaled	May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, nose and throat pain.
In case of skin contact	Causes skin irritation. Signs/symptoms may include localized dryness, redness, swelling, and itching.
In case of eye contact	Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
If swallowed	May cause gastrointestinal irritation and other adverse effects. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically and supportively.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical
Product is not classified as flammable or combustible in accordance with US OSHA (29 CFR 1910.1200).

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing gas, mist, vapors, spray. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions
Do not release into the environment. Stop spill/release if it can be done safely. Do not let product enter drains and waterways by using inert absorbent material barriers.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If necessary, consider neutralizing the residue with a suitable neutralizing agent.

Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Do not eat, drink or smoke when using this product. Wash hands with soap and water after handling. For personal protection see section 8. For precautions see section 2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from incompatible materials.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Hydrogen Chloride (CAS: 7647-01-0)
PEL-C: 5 ppm (7 mg/m³) (OSHA)
TLV-C: 2 ppm (ACGIH)
REL-C: 5 ppm (7 mg/m³) (NIOSH)
PEL-TWA: 0.3 ppm (0.45 mg/m³) (Cal/OSHA)
PEL-C: 2 ppm (Cal/OSHA)

8.2 Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits. Eyewash stations and showers should be available in areas where this material is used and stored.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection

Wear safety glasses/goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear protective gloves. Consult manufacturer specifications for further information.

Body protection

Wear protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). If the respirator is the sole means of protection, use a full-face supplied air respirator.

Thermal hazards

No data available.

Environmental exposure controls

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear colorless liquid.
Odor	No odor.
Odor threshold	No data available.
pH	1.3
Melting point/freezing point	~0°C (estimated)
Initial boiling point and boiling range	~100°C (estimated)
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Specific gravity	No data available.
Solubility(ies)	Soluble in water.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

Other safety information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Stable under normal use conditions.

10.2 Chemical stability
Stable under normal storage conditions.

10.3 Possibility of hazardous reactions
Product can react with strong bases to produce heat.
Product can react violently with alkali metals.

10.4 Conditions to avoid
Avoid contact with incompatible materials.

10.5 Incompatible materials
Strong bases, strong oxidizers, alkali metals.

10.6 Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Information on toxicological effects

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation.

If inhaled	May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, nose and throat pain.
In case of skin contact	Causes skin irritation. Signs/symptoms may include localized dryness, redness, swelling, and itching.
In case of eye contact	Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
If swallowed	May cause gastrointestinal irritation and other adverse effects. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Acute toxicity
Based on available data, classification criteria are not met.

Components:

Potassium Bromide (CAS no.: 7758-02-3)
LD50 (oral) – rat – >2000 mg/kg
LD50 (dermal) – rabbit – >2000 mg/kg

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Based on available data, classification criteria are not met.

Germ cell mutagenicity
No data available.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
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.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available.

STOT-single exposure
May cause respiratory irritation.

STOT-repeated exposure
No data available.

Aspiration hazard
Based on available data, classification criteria are not met.

SECTION 12: Ecological information

Toxicity
No data available on product.

Persistence and degradability
No data available on product.

Bioaccumulative potential
No data available on product.

Mobility in soil
No data available.

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects
No data available.

SECTION 13: Disposal considerations

Disposal of the product
Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Disposal of contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards
Acute health hazard.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

HMIS Rating

Dissolved Ozone Electrolyte	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0

NFPA Rating

SECTION 16: Other information

16.1 Further information/disclaimer

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