



# Electrolyte Formula C10

## Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Issue date: 4/22/2021  
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Version: 2.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Electrolyte Formula C10

#### 1.2. Recommended use and restrictions on use

Recommended use : Electrolyte solution

#### 1.3. Supplier

##### Manufacturer

Marking Methods  
301 S Raymond Avenue  
Alhambra, CA 91803-1531  
T (626) 282 8823

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300  
CHEMTREC International +1 (703) 527-3887 24 hr

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS classification

Skin Irrit. 2  
Eye Irrit. 2A

#### 2.2. GHS Label elements, including precautionary statements

##### GHS labelling

Hazard pictograms (GHS) :



Signal word (GHS) :

Warning

Hazard statements (GHS) :

Causes skin irritation.  
Causes serious eye irritation.

Precautionary statements (GHS) :

Wash hands, forearms and face thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin: Wash with plenty of water.  
Take off contaminated clothing and wash it before reuse.  
If skin irritation occurs: Get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

#### 2.3. Other hazards which do not result in classification

No additional information available

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### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%
Ammonium nitrate	CAS-No.: 6484-52-2	1 – 5
Citric acid	CAS-No.: 77-92-9	1 – 5
2-Ethylhexyl sodium sulfate	CAS-No.: 126-92-1	0.5 – 1.5
acetic acid	CAS-No.: 64-19-7	0.5 – 1.5

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### 4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: Do not use water jet.

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### 5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Nitrogen oxides. Oxides of sulfur. Halogenated compounds. Metal oxides. May release corrosive or irritating fumes.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Neutralize with : sodium carbonate. sodium bicarbonate. Sodium hydroxide. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Provide ventilation.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. When using do not eat, drink or smoke. Handle and open container with care.

Hygiene measures : Always wash hands after handling the product. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep only in the original container. Do not store in unlabelled containers. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store tightly closed in a dry, cool and well-ventilated place.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>Electrolyte Formula C10</b>	
No additional information available	
<b>Ammonium nitrate (6484-52-2)</b>	
No additional information available	
<b>Citric acid (77-92-9)</b>	
No additional information available	
<b>acetic acid (64-19-7)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA [ppm]	10 ppm
ACGIH OEL STEL [ppm]	15 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	25 mg/m <sup>3</sup>
OSHA PEL TWA [2]	10 ppm
<b>USA - IDLH - Occupational Exposure Limits</b>	
IDLH [ppm]	50 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA	25 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	10 ppm
NIOSH REL STEL	37 mg/m <sup>3</sup>
NIOSH REL STEL [ppm]	15 ppm
<b>2-Ethylhexyl sodium sulfate (126-92-1)</b>	
No additional information available	

#### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.
Environmental exposure controls	: Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

<b>Hand protection:</b>	
Wear suitable gloves resistant to chemical penetration	
<b>Eye protection:</b>	
Wear eye/face protection	
<b>Skin and body protection:</b>	
Wear suitable protective clothing	

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### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. 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.

### Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Colour	: Clear
Odour	: Slight
Odour threshold	: No data available
pH	: 2.5
Melting point	: 0 °C (32 °F)
Freezing point	: No data available
Boiling point	: 100 °C (212 °F)
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 1 [Air = 1]
Relative density	: 1.06
Solubility	: Miscible with water.
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

### 9.2. Other information

VOC content	: 4 % (w/w)
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Heat. Incompatible materials.

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### 10.5. Incompatible materials

Strong oxidizing agents. Acids. Alkalies.

### 10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. Nitrogen oxides. Oxides of sulfur. Halogenated compounds. Metal oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.  
Acute toxicity (dermal) : Not classified.  
Acute toxicity (inhalation) : Not classified.

#### Ammonium nitrate (6484-52-2)

LD50 oral rat	2217 mg/kg
LD50 dermal rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 inhalation rat	> 88.8 mg/l/4h
ATE CA (oral)	2217 mg/kg bodyweight

#### Citric acid (77-92-9)

LD50 oral rat	3 g/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE CA (oral)	3000 mg/kg bodyweight

#### acetic acid (64-19-7)

LD50 oral rat	3310 mg/kg bodyweight Animal: rat
LD50 dermal rabbit	1060 mg/kg
LC50 inhalation rat	11.4 mg/l/4h
ATE CA (oral)	3310 mg/kg bodyweight
ATE CA (Dermal)	1060 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	4500 ppmv/4h
ATE CA (vapours)	11.4 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

#### 2-Ethylhexyl sodium sulfate (126-92-1)

LD50 oral rat	4 g/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE CA (oral)	4000 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.  
pH: 2.5  
Serious eye damage/irritation : Causes serious eye irritation.  
pH: 2.5  
Respiratory or skin sensitisation : Not classified.  
Germ cell mutagenicity : Not classified.  
Carcinogenicity : Not classified.

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Reproductive toxicity : Not classified.  
STOT-single exposure : Not classified.  
STOT-repeated exposure : Not classified.

Citric acid (77-92-9)	
LOAEL (oral, rat, 90 days)	8000 mg/kg bodyweight Animal: rat
NOAEL (oral, rat, 90 days)	4000 mg/kg bodyweight Animal: rat

acetic acid (64-19-7)	
NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight Animal: rat, Animal sex: male

2-Ethylhexyl sodium sulfate (126-92-1)	
LOAEL (oral, rat, 90 days)	1016 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (oral, rat, 90 days)	488 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified.  
Symptoms/effects after inhalation : May cause irritation to the respiratory tract.  
Symptoms/effects after skin contact : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.  
Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.  
Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.  
Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Ammonium nitrate (6484-52-2)	
EC50 - Crustacea [1]	490 mg/l Test organisms (species): Daphnia magna

Citric acid (77-92-9)	
LC50 - Fish [1]	1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

acetic acid (64-19-7)	
LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
LC50 - Fish [2]	> 300.82 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [2]	> 300.82 mg/l Test organisms (species): Daphnia magna

2-Ethylhexyl sodium sulfate (126-92-1)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	483 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	6.86 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	1.4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 1.357 mg/l Test organisms (species): Pimephales promelas Duration: '42 d'

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### 12.2. Persistence and degradability

#### Electrolyte Formula C10

Persistence and degradability	Not established.
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### 12.3. Bioaccumulative potential

#### Electrolyte Formula C10

Bioaccumulative potential	Not established.
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#### Ammonium nitrate (6484-52-2)

BCF - Fish [1]	(no bioaccumulation expected)
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Partition coefficient n-octanol/water	-3.1 (at 25 °C)
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#### Citric acid (77-92-9)

Partition coefficient n-octanol/water	-1.72 (at 20 °C)
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#### acetic acid (64-19-7)

Partition coefficient n-octanol/water	-0.31 (at 20 °C)
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : No other effects known.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. The generation of waste should be avoided or minimized wherever possible.

Additional information : Empty containers may contain residues which are hazardous.

## SECTION 14: Transport information

### 14.1. UN number

DOT NA No : Not applicable  
UN-No. (TDG) : Not applicable

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

### 14.3. Transport hazard class(es)

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

#### Transportation of Dangerous Goods (TDG)

Transport hazard class(es) (TDG) : Not applicable



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### 14.4. Packing group

Packing group (DOT) : Not applicable  
Packing group (TDG) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

#### acetic acid (64-19-7)

CERCLA RQ	5000 lb
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All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

### 15.2. International regulations

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Ammonium nitrate(6484-52-2)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
acetic acid(64-19-7)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Oxalic acid(144-62-7)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List

## SECTION 16: Other information

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Other information : None.

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