

Ammonium perchlorate solution**09911-1L**

Version 1.3

Revision Date 08/23/2021

Print Date 05/29/2023

SECTION 1. IDENTIFICATION

Product name : Ammonium perchlorate solution

Number : 000000020563

Product Use Description : Laboratory chemicals

Manufacturer or supplier's details : Honeywell Specialty Chemicals Seelze GmbH
Wunstorfer Straße 40
Seelze, 30926

For more information call : 1-800-368-0050
+1-231-726-3171(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or**
: **+1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid

Color : colourless

Odor : odourless

Classification of the substance or mixture

Classification of the substance or mixture : Oxidizing liquids, Category 3
Eye irritation, Category 2A
Specific target organ toxicity - repeated exposure, Category 2,
Thyroid

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GHS Label elements, including precautionary statements

Symbol(s)

:



Signal word

: Warning

Hazard statements

: May intensify fire; oxidizer.
Causes serious eye irritation.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

: **Prevention:**
Keep away from heat.
Keep/ Store away from clothing/ combustible materials.
Take any precaution to avoid mixing with combustibles.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice/ attention if you feel unwell.
If eye irritation persists: Get medical advice/ attention.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

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, IARC, or OSHA.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : NH_4ClO_4

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Ammonium perchlorate	7790-98-9	≥ 10.00 - < 20.00 %
Water	7732-18-5	> 80.00 - ≤ 90.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous area. Show this safety data sheet to the doctor in attendance.

Inhalation : If inhaled, remove to fresh air. Call a physician if irritation develops or persists.

Skin contact : Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact : Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eye. Remove contact lenses. Call a physician immediately.

Ingestion : Clean mouth with water and drink afterwards plenty of water. Call a physician immediately.

Notes to physician

Most important symptoms/effects, acute and delayed : No information available.

Indication of immediate medical attention and special treatment needed, if : Treat symptomatically.

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necessary

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO₂)
Dry powder
- Specific hazards during firefighting : The product itself does not burn.
Some risk may be expected of corrosive and toxic decomposition products.
In fires, the product supports combustion.
Fire may cause evolution of:
Nitrous gases
Chlorine compounds
Do not use a solid water stream as it may scatter and spread fire.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.
No unprotected exposed skin areas.
- Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment. Unprotected persons must be kept away.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Pick up with liquid binding materials and if necessary fill in containers capable of being locked.
Do not pick up with the help of saw-dust or other combustible substances.

SECTION 7. HANDLING AND STORAGE**Handling**

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Precautions for safe handling : Exhaust ventilation at the object is necessary.
Wear personal protective equipment.
To be used only where there is a recognised need. Do not exceed the appropriate dose rates.
Drying of this product on clothing or combustible materials may cause fire.

Advice on protection against fire and explosion : Do not empty bag over drums with ignitable gas mixtures.
Dry residue is explosive.
Fire or intense heat may cause violent rupture of packages.
Keep away from easily oxidizable materials.

Storage

Conditions for safe storage, including any incompatibilities : Store in original container.
Store away from incompatible substances.
Protect from extreme heat and cold.
Store in a place accessible by authorized persons only.

Advice on common storage : Do not store together with:
Flammable solids
Flammable liquids
alkaline materials
Nitrites

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment.
Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures : Local exhaust

Eye protection : Safety goggles

Hand protection : Nitrile rubber
Gloves must be inspected prior to use.
Replace when worn.

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- Skin and body protection : Wear suitable protective equipment.
Complete suit protecting against chemicals
Lab coat
- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
- Hygiene measures : Separate rooms are required for washing, showering and changing clothes.
Keep working clothes separately.

Exposure Guidelines

Contains no substances with occupational exposure limit values.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state : liquid
- Color : colourless
- Odor : odourless
- Odor threshold : Note: No data available
- pH : Note: No data available
- Melting point/range : < 0 °C
- Boiling point/boiling range : > 100 °C
- Flash point : Note: does not flash
- Evaporation rate : Note: No data available
- Flammability : Not applicable
- Lower explosion limit : Note: Not applicable

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Upper explosion limit	: Note: Not applicable
Vapor pressure	: Note: similar to water
Vapor density	: Note: No data available
Density	: 1.053 g/cm ³ at 20 °C
Water solubility	: Note: completely miscible
Partition coefficient: n-octanol/water	: Note: No data available
Ignition temperature	: Note: No data available
Auto-ignition temperature	: Note: not auto-flammable
Decomposition temperature	: Note: To avoid thermal decomposition, do not overheat., Stable under recommended storage conditions.
Viscosity, dynamic	: Note: No data available
Viscosity, kinematic	: Note: No data available
Oxidizing properties	: The substance or mixture is classified as oxidizing with the category 3.
Molecular weight	: 117.49 g/mol
Bulk density	: Note: Not applicable

SECTION 10. STABILITY AND REACTIVITY

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Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: May intensify fire; oxidizer.
Possibility of hazardous reactions	: Drying of this product on clothing or combustible materials may cause fire.
Conditions to avoid	: Protect from extreme heat and cold. Protect from contamination. Avoid letting the product become dry.
Incompatible materials	: Reactions with strong alkalies. Reactions with organic substances. Reactions with metals in powder form. Decomposes by reaction with alkaline solutions.
Hazardous decomposition products	: Chlorine compounds Nitrous gases

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: Test substance: anhydrous substance Note: Not classified due to data which are conclusive although insufficient for classification.
Acute inhalation toxicity	: Test substance: anhydrous substance Note: Not classified due to data which are conclusive although insufficient for classification.
Acute dermal toxicity	: Test substance: anhydrous substance Note: Not classified due to data which are conclusive although insufficient for classification.
Skin irritation	: Test substance: anhydrous substance Note: Not classified due to data which are conclusive although insufficient for classification.

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- Eye irritation : Test substance: anhydrous substance
Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)
- Sensitisation : Test substance: anhydrous substance
Note: Not classified due to data which are conclusive although insufficient for classification.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

- Toxicity to fish : semi-static test
LC100: 500 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Test substance: anhydrous substance
Method: OECD Test Guideline 203
- : semi-static test
LC50: > 200 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Test substance: anhydrous substance
Method: OECD Test Guideline 203
- : semi-static test
LC0: 100 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Test substance: anhydrous substance
Method: OECD Test Guideline 203
- : NOEC: 10 mg/l
Exposure time: 2,016 h
Species: Brachydanio rerio (zebrafish)
Test substance: anhydrous substance

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: LOEC: 0.01 mg/l
Exposure time: 2,016 h
Species: Brachydanio rerio (zebrafish)
Test substance: anhydrous substance

Toxicity to daphnia and other aquatic invertebrates : static test
EC50: > 341 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Test substance: anhydrous substance
Method: OECD Test Guideline 202

Toxicity to algae : static test
EC50: > 505 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Test substance: anhydrous substance
Method: OECD Test Guideline 201

: static test
EC10: 189.2 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Test substance: anhydrous substance
Method: OECD Test Guideline 201

Elimination information (persistence and degradability)

Biodegradability : Note: The methods for determining biodegradability are not applicable to inorganic substances.

Further information on ecology

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

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SECTION 14. TRANSPORT INFORMATION

DOT UN/ID No. : UN 3211
Proper shipping name : PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
Class : 5.1
Packing group : III
Hazard Labels : 5.1

IATA UN/ID No. : UN 3211
Description of the goods : PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
Class : 5.1
Packaging group : III
Hazard Labels : 5.1
Packing instruction (cargo aircraft) : 555
Packing instruction (passenger aircraft) : 551
Packing instruction (passenger aircraft) : Y541

IMDG UN/ID No. : UN 3211
Description of the goods : PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
Class : 5.1
Packaging group : III
Hazard Labels : 5.1
EmS Number : F-H, S-Q
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances : On TSCA Inventory
Control Act

Australia. Industrial : On the inventory, or in compliance with the inventory
Chemical (Notification and
Assessment) Act

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Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS) : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC) : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

National regulatory information

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

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:
: Ammonium perchlorate 7790-98-9

SARA 311/312 Hazards : Reactivity Hazard

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California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts RTK : Ammonium perchlorate 7790-98-9

New Jersey RTK : Ammonium perchlorate 7790-98-9

Pennsylvania RTK : Ammonium perchlorate 7790-98-9

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 2	2
Flammability	: 2	2
Physical Hazard	: 1	
Instability	:	1
Special hazard	:	OX

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group