Printing date 05/11/2023 Reviewed on 05/11/2023

1 Identification

· Product identifier

• Trade name: Magnesium Chloride 10 gpL in Mixed Alcohol Solvent (ASTM D3230-13)

· Article number: 5385

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Aqua Solutions, Inc. 6913 Highway 225 DEER PARK, TX 77536 USA 800-256-2586

· Information department:

Technical Coordinator

Sherman Nelson shermann@aquasolutions.org

Technical Coordinator

Sherman Nelson shermann@aquasolutions.org

· Emergency telephone number: Chemtrec: 800-424-9300 Canutec: 613-996-6666



2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Oral 3 H301 Toxic if swallowed.



GHS08 Health hazard

Specific Target Organ Toxicity - Single Exposure 1 H370 Causes damage to the central nervous system and the visual organs.



GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.



GHS07

Acute Toxicity - Dermal 4 H312 Harmful in contact with skin.

Acute Toxicity - Inhalation 4 H332 Harmful if inhaled.

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Skin Irritation 2

H315

Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- · Label elements
- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms











GHS02

GHS05

GHS06

GHS08

1502 011505 011500 0116

- · Signal word Danger
- · Hazard-determining components of labeling:

n-Butyl Alcohol

Methanol

· Hazard statements

Highly flammable liquid and vapor.

Toxic if swallowed.

Harmful in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

Causes damage to the central nervous system and the visual organs.

May cause respiratory irritation. May cause drowsiness or dizziness.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed: Call a POISON CENTER or doctor/physician.

Call a poison center/doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

In case of fire: Use CO2, powder or water spray to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Trade name: Magnesium Chloride 10 gpL

in Mixed Alcohol Solvent (ASTM D3230-13)

(Contd. of page 2)

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



Health = 3 Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)



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

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:					
CAS: 71-36-3	3 n-Butyl Alcohol				
CAS: 67-56-1	7-56-1 <i>Methanol</i> 2				
· Table of Nonhazardous Ingredients					
CAS: 7732-18	-5 Water	29.159%			
CAS: 7791-18	-6 Magnesium Chloride Hexahydrate	2.469%			

4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Do not induce vomiting; immediately call for medical help.
- · Information for doctor:
- · 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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(Contd. of page 3)

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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 or alcohol resistant foam.

· Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

:

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· 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:						
CAS: 71-36-3	n-Butyl Alcohol	60 ppm				
CAS: 67-56-1	Methanol	530 ppm				
CAS: 7791-18-6	6 Magnesium Chloride Hexahydrate 3					
· PAC-2:						
CAS: 71-36-3	n-Butyl Alcohol	800 ppm				
CAS: 67-56-1	Methanol 2,1					
CAS: 7791-18-6	Magnesium Chloride Hexahydrate 370 n					
· PAC-3:						
CAS: 71-36-3	n-Butyl Alcohol					
CAS: 67-56-1	Methanol 72					
CAS: 7791-18-6	7791-18-6 Magnesium Chloride Hexahydrate 1,600 m					

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7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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(Contd. of page 4)

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- · Conditions for safe storage, including any incompatibilities
- · Storage.
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· 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	reauire	monitoring	at the	workplace:
Components	,, ,,,,,,		, colores		. cquii c	month of the	cor crec	" or represent

CAS: 71-36-3 n-Butyl Alcohol

PEL Long-term value: 300 mg/m³, 100 ppm

REL Ceiling limit value: 150 mg/m³, 50 ppm

Skin

TLV Long-term value: 20 ppm

CAS: 67-56-1 Methanol

PEL Long-term value: 260 mg/m³, 200 ppm

REL Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 250 ppm

Long-term value: 200 ppm

Skin; BEI

· Ingredients with biological limit values:

CAS: 67-56-1 Methanol

BEI 15 mg/L

LD50 Intraperitoneal: urine

Time: end of shift

LD50: Methanol (background, nonspecific)

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · 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 skin.

Avoid contact with the eyes and skin.

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(Contd. of page 5)

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· 1	Informat	ion on	basic pi	hysical	and c	hemical	l properties
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· General Information · Appearance:

· Auto igniting:

Form: Color:

· Odor: Characteristic · Odor threshold: Not determined.

Liquid

Clear

Not determined.

· pH-value: · Change in condition

Melting point/Melting range: Undetermined. 64 °C (147.2 °F) Boiling point/Boiling range:

· Flash point: 11 °C (51.8 °F)

· Flammability (solid, gaseous): Highly flammable. 340 °C (644 °F)

Not determined. · Decomposition temperature:

· Ignition temperature: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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Trade name: Magnesium Chloride 10 gpL

in Mixed Alcohol Solvent (ASTM D3230-13)

	(Contd. of pa
· Explosion limits:	
Lower:	1.5 Vol %
Upper:	44 Vol %
· Vapor pressure at 20 °C (68 °F):	128 hPa (96 mm Hg)
· Density at 20 °C (68 °F):	0.87931 g/cm³ (7.33784 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/wate	e r): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	68.4 %
Water:	29.2 %
VOC content:	68.37 %
	601.2 g/l / 5.02 lb/gal
Solids content:	2.5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

	· LD/LC50 1	LD/LC30 values that are relevant for classification:					
	ATE (Acute Toxicity Estimate)						
ı	Oral	LD50	297 mg/kg				
	Dermal	LD50	1,203 mg/kg				
	Inhalative	LC50/4h	12 mg/l				

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Strong irritant with the danger of severe eye injury.

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(Contd. of page 7)

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Toxic Harmful Irritant

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- · 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:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- · UN-Number
- · DOT, IMDG, IATA

UN1993

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Trade name: Magnesium Chloride 10 gpL

in Mixed Alcohol Solvent (ASTM D3230-13)

(Contd. of page 8) · UN proper shipping name Flammable liquids, n.o.s. (Butanols, Methanol) FLAMMABLE LIQUID, N.O.S. (Butanols, Methanol) · IMDG, IATA · Transport hazard class(es) $\cdot DOT$ · Class 3 Flammable liquids · Label · IMDG, IATA · Class 3 Flammable liquids · Label · Packing group · DOT, IMDG, IATA II· Environmental hazards: · Marine pollutant: No · Special precautions for user Warning: Flammable liquids · Hazard identification number (Kemler code): 33 · EMS Number: F-E,S-E· Stowage Category · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. · Transport/Additional information: $\cdot DOT$ On passenger aircraft/rail: 5 L · Quantity limitations On cargo aircraft only: 60 L · IMDG · Limited quantities (LQ) 1L· Excepted quantities (EQ) Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml · UN "Model Regulation": UN 1993 FLAMMABLE LIQUID, N.O.S. (BUTANOLS, METHANOL), 3, II

15 Regulatory information

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

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· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

CAS: 71-36-3 n-Butyl Alcohol

CAS: 67-56-1 Methanol

· TSCA (Toxic Substances Control Act):

n-Butyl Alcohol *ACTIVE* Water **ACTIVE** Methanol *ACTIVE*

· Hazardous Air Pollutants

CAS: 67-56-1 Methanol

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

CAS: 67-56-1 Methanol

· Carcinogenic categories

· EPA (Environmental Protection Agency)

CAS: 71-36-3 n-Butyl Alcohol

D

· TLV (Threshold Limit Value)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms











GHS05

GHS06

GHS08

- · Signal word Danger
- · Hazard-determining components of labeling:

n-Butyl Alcohol

Methanol

· Hazard statements

Highly flammable liquid and vapor.

Toxic if swallowed.

Harmful in contact with skin or if inhaled.

Causes skin irritation.

(Contd. on page 11)

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Trade name: Magnesium Chloride 10 gpL in Mixed Alcohol Solvent (ASTM D3230-13)

(Contd. of page 10)

Causes serious eye damage.

Causes damage to the central nervous system and the visual organs.

May cause respiratory irritation. May cause drowsiness or dizziness.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

Rinse mouth.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed: Call a POISON CENTER or doctor/physician.

Call a poison center/doctor if you feel unwell.

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

In case of fire: Use CO2, powder or water spray to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not 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: Environment protection department.
- · Contact:
- · Date of preparation / last revision

Revision 1.0 05/11/2023, reviewed SDS for accuracy. STN

Revision 2.0, 01-12-2020: Updated sections 1, 2 and 15 to meet Fanns new requirements 05/11/2023

· Abbreviations and acronyms:

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

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

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(Contd. of page 11)

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 BEI: Biological Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2 Acute Toxicity - Oral 3: Acute toxicity – Category 3

Acute Toxicity - Dermal 4: Acute toxicity - Category 4
Skin Irritation 2: Skin corrosion/irritation - Category 2
Eye Damage 1: Serious eye damage/eye irritation - Category 1

Specific Target Organ Toxicity - Single Exposure 1: Specific target organ toxicity (single exposure) – Category 1

* Data compared to the previous version altered.

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