



Version 2

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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE **COMPANY/UNDERTAKING**

1.1. Product identifier

Product Name	Magnesium Sulfate in Water for Injection, USP (Hospira Inc.)
Product Code(s)	PZ03097
Trade Name:	Magnesium Sulfate in Water for Injection, USP
Chemical Family:	Not determined

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Pharmaceutical product used as electrolyte replacement anticonvulsant

1.3. Details of the supplier of the safety data sheet

Hospira, A Pfizer Company 275 North Field Drive		Pfizer Ireland Pharmaceuticals OSG Building
Lake Forest, Illinois 60045 1-800-879-3477		Ringaskiddy, Co. Cork. Ireland +353 21 4378701
E-mail address	pfizer-MSDS@pfizer.com	

E-mail address

1.4. Emergency telephone number

Emergency Telephone

Chemtrec 1-800-424-9300 International Chemtrec (24 hours):+1-703-527-3887

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS - Classification: Not classified as hazardous according to Regulation (EC) 1272/2008 and/or other applicable regulations.

<u>2.2. Label elements</u> Signal word	Not Classified
Hazard statements	Not classified in accordance with international standards for workplace safety.
<u>2.3. Other hazards</u> Other hazards	An Occupational Exposure Value has been established for one or more of the ingredients (see Section 8).

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Note:

This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Substances

Not applicable

3.2 Mixtures

Hazardous

Hazardous							
Chemical name	Weight-%	REACH Registration Number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Sodium hydroxide (CAS #: 1310-73-2)	**	-	215-185-5	Skin Corr.1A (H314)	Eye Irrit. 2 :: 0.5%<=C<2% Skin Corr. 1A :: C>=5% Skin Corr. 1B :: 2%<=C<5% Skin Irrit. 2 :: 0.5%<=C<2%	No data available	No data available
+ SULPHURIC ACID % (CAS #: 7664-93-9)	**		231-639-5	Skin Corr. 1A (H314)	Eye Irrit. 2 :: 5%<=C<15% Skin Corr. 1A :: C>=15% Skin Irrit. 2 :: 5%<=C<15%	No data available	No data available
NonHazardous							
Chemical name	Weight-%	REACH Registration Number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Water (CAS #: 7732-18-5)	92	-	231-791-2	Not classified as hazardous	Not Listed	No data available	No data available
Magnesium sulfate heptahydrate (CAS #: 10034-99-8)	4-8		Not Listed	Not classified as hazardous	Not Listed	No data available	No data available

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

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Chemical name	Oral LD50	Dermal LD50	Inhalation LC50 - 4	Inhalation LC50 - 4	Inhalation LC50 - 4
			hour - dust/mist -	hour - vapor - mg/L	hour - gas - ppm
			mg/L		-
Water	89838.9	No data available	No data available	No data available	No data available
7732-18-5					
Sodium hydroxide	325	1350	No data available	No data available	No data available
1310-73-2					
+ SULPHURIC ACID %	2140	No data available	0.375	No data available	No data available
7664-93-9					

Additional information

+ Substance with a Union workplace exposure limit ** to adjust pH Non-hazardous ingredients provided for completeness. Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation	Move to fresh air. If discomfort persists, get medical attention.
Eye contact	Flush eye(s) immediately with plenty of water. If irritation occurs or persists, get medical attention.
Skin contact	Wash skin with soap and water. If skin irritation persists, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and	For information on potential signs and symptoms of exposure, See Section 2 - Hazards
effects	Identification and/or Section 11 - Toxicological Information.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	None.	
Section 5: FIRE-FIGHTING M	EASURES	
5.1. Extinguishing media		
Suitable Extinguishing Media	As for primary cause of fire.	
5.2. Special hazards arising from the substance or mixture		
Specific hazards arising from the chemical	Not applicable.	
Hazardous combustion products	Formation of toxic gases is possible during heating or fire. Emits oxides of sulfur under combustion.	
5.3. Advice for firefighters		

 2 mg/m^3 Ceiling: 2 mg/m³ 2 mg/m³

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Special protective equipment for

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Advice on safe handling

Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Handle in accordance with good industrial hygiene and safety practice. General hygiene considerations

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Store as directed by product packaging.

7.3. Specific end use(s)

Specific use(s)

Pharmaceutical drug product.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Refer to available public information for specific member state Occupational Exposure Limits.

Sodium hydroxide

ACGIH OEL (Ceiling) ACGIH TLV Austria

SAFETY DATA SHEET

agent line personal protection equipment

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ine-nginers	gear. Ose personal protection equipment.
Section 6: ACCIDENTAL REL	EASE MEASURES
6.1. Personal precautions, protectiv	ve equipment and emergency procedures
Personal precautions	Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.
For emergency responders	Use personal protection recommended in Section 8.
6.2. Environmental precautions	
Environmental precautions	Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.
6.3. Methods and material for conta	inment and cleaning up
Methods for containment Methods for cleaning up	Prevent further leakage or spillage if safe to do so. Contain the source of spill if it is safe to do so. Collect spill with absorbent material. Clean spill area thoroughly.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
6.4. Reference to other sections	
Reference to other sections	See section 8 for more information. See section 13 for more information.

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

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Bulgaria Czech Republic

Denmark Estonia

Finland France Hungary

Ireland Ceiling Limit Value Latvia Poland

Romania

Slovakia Spain Switzerland

OSHA PEL

United Kingdom + SULPHURIC ACID ... % ACGIH TLV Austria

> Bulgaria Czech Republic

Denmark Estonia European Union Finland

France Germany

Germany Hungary Ireland

Italy Ceiling Limit Value Latvia Netherlands Poland Romania Russia

Slovakia Spain Switzerland

OSHA PEL

STEL 4 mg/m³ 2.0 mg/m³ 1 mg/m^3 Ceiling: 2 mg/m³ Ceiling: 2 mg/m³ 1 mg/m^3 STEL: 2 mg/m³ Ceiling: 2 mg/m³ 2 mg/m^3 1 mg/m³ STEL: 2 mg/m³ STEL: 2 mg/m³ 2 mg/m³ 0.5 mg/m³ STEL: 1 mg/m³ 0.5 mg/m³ 1 mg/m^3 STEL: 3 mg/m³ 2 mg/m³ STEL: 2 mg/m³ 2 mg/m³ STEL: 2 mg/m³ 2 mg/m³ (vacated) Ceiling: 2 mg/m³ STEL: 2 mg/m³ 0.2 mg/m³ 0.1 mg/m³ STEL 0.2 mg/m³ 0.05 mg/m³ 1 mg/m^3 0.05 mg/m³ Ceiling: 2 mg/m³ 0.05 mg/m³ 0.05 mg/m³ TWA: 0.05 mg/m³ 0.05 mg/m³ STEL: 0.1 mg/m³ 0.05 mg/m³ 0.1 mg/m³ Ceiling / Peak: 0.1 mg/m³ 0.1 mg/m³ 0.05 mg/m³ 0.05 ppm STEL: 0.15 ppm 0.05 mg/m³ 1 mg/m³ 0.05 mg/m³ 0.05 mg/m³ 0.05 mg/m³ 0.05 mg/m³ MAC: 1 mg/m³ Skin 0.05 mg/m³ 0.05 mg/m³ 0.1 mg/m³ STEL: 0.2 mg/m³ 1 mg/m³

(vacated) TWA: 1 mg/m³

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United Kingdom	TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³
8.2. Exposure controls	
Engineering controls	Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes.
Environmental exposure controls	No information available.
Personal protective equipment	Contact your safety and health professional or safety equipment supplier for assistance in selecting the correct protective clothing/equipment based on an assessment of the workplace conditions, other chemicals used or present in the workplace and specific operational processes. Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).
Eye/face protection	Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.).
Hand protection	Impervious gloves (e.g. Nitrile, etc.) are recommended if skin contact with drug product is possible and for bulk processing operations. (Protective gloves must meet the standards in accordance with EN374, ASTM F1001 or international equivalent.).
Skin and body protection	Impervious disposable protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.).
Respiratory protection	Under normal conditions of use, if the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL (e.g. particulate respirator with a half mask, P3 filter). (Respirators must meet the standards in accordance with EN140, EN143, ASTM F2704-10 or international equivalent.).

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties	
Physical state	Liquid
Color	Colourless
Odor	No information available.
Odor threshold	No information available
Molecular formula	Mixture
Molecular weight	Mixture
Property	Values
рН	3.5-6.5
Melting point / freezing point	No data available
Boiling point / boiling range	
Flash point	No information available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available

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Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Water solubility	No data available
Solubility(ies)	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Particle characteristics	
Particle Size	No information available
Particle Size Distribution	No information available
Explosive properties	No information available

9.2. Other information No information available

9.2.1. Information with regard to physical hazard classes

Oxidizing properties

None

9.2.2. Other safety characteristics No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity	
Reactivity	No data available.
10.2. Chemical stability	
Stability	Stable under normal conditions.
Explosion data	
Sensitivity to Mechanical Impact	No data available.
Sensitivity to Static Discharge	No data available.

10.3. Possibility of hazardous reactionsPossibility of hazardous reactionsNo information available.10.4. Conditions to avoidNone known.

10.5. Incompatible materialsNone known.

<u>10.6. Hazardous decomposition products</u> Hazardous decomposition products Thermal decomposition products include. oxides of sulfur.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

General Information:	The information included in this section describes the potential hazards of the active ingredient(s).
Known Clinical Effects:	Adverse effects associated with therapeutic use include flushing. sweating, decrease in blood pressure (hypotension), circulatory failure, central nervous system, depression.
Acute toxicity Serious eye damage/eye irritation	Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met.

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Skin corrosion/irritation Respiratory or skin sensitization STOT - single exposure STOT - repeated exposure Reproductive toxicity Germ cell mutagenicity Carcinogenicity Aspiration hazard Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met. Based on available data, the classification criteria are not met.

Acute Toxicity: (Species, Route, End Point, Dose)

Magnesium sulfate heptahydrate Rat Oral LDmin. 5000 mg/kg

Mouse Oral LDmin. 3000 mg/kg Sodium hydroxide Mouse IP LD50 40 mg/kg

NOUSE IL LOSU TO HIG/Kg			
Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
Sodium hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	-
+ SULPHURIC ACID %	= 2140 mg/kg(Rat)	-	= 0.375 mg/L (Rat)4 h

Irritation / Sensitization: (Study Type, Species, Severity)

Sodium hydroxide Eye Irritation Rabbit Severe Skin Irritation Rabbit Severe

Reproduction & Development Toxicity: (Duration, Species, Route, Dose, End Point, Effect(s))

Magnesium sulfate heptahydrate

Fertility and Embryonic Development Rat Oral 450 mg/kg/day NOAEL No evidence of impaired fertility or harm to the fetus

Genetic Toxicity: (Study Type, Cell Type/Organism, Result) Magnesium sulfate bentabydrate

magnesium sunate neptanya	alc	
Bacterial Mutagenicity (Ames)	Salmonella	Negative

Carcinogenicity See below The International Agency for Research on Cancer (IARC) and the United States National Toxicology Program (NTP) have classified 'occupational exposure to strong inorganic acid mists containing sulfuric acid' as a known human carcinogen. This classification applies only to sulfuric acid when generated as a mist. This classification is debated within the scientific community and there is disagreement as to whether or not a cause and effect relationship between cancer and 'occupational exposure to strong inorganic acid mists containing sulfuric acid' exists.

 IARC
 Group 1 (Carcinogenic to Humans)

 NTP
 Known Human Carcinogen

11.2. Information on other hazards11.2.1. Endocrine disrupting propertiesEndocrine disrupting propertiesNo information available.

11.2.2. Other information Other adverse effects

No information available.

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Section 12: ECOLOGICAL INFORMATION Environmental properties have not been investigated. Releases to the environment should **Environmental Overview:** be avoided. 12.1. Toxicity No information available 12.2. Persistence and degradability Persistence and degradability No information available. 12.3. Bioaccumulative potential No information available. Bioaccumulation 12.4. Mobility in soil Mobility in soil No information available. 12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Sodium hydroxide	The substance is not PBT / vPvB PBT assessment does
	not apply
+ SULPHURIC ACID %	The substance is not PBT / vPvB PBT assessment does
	not apply

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural wastewater and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

Section 14: TRANSPORT INFORMATION

The following refers to all modes of transportation unless specified below.

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Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental Hazard(s):	Not applicable
Special precautions for user:	Not applicable

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Water	
CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
TSCA	Present
EINECS	231-791-2
AICS	Present
Magnesium sulfate heptahydrate	
CERCLA/SARA Section 313 de minimus %	Not Listed
California Proposition 65	Not Listed
EINECS	Not Listed
AICS	Present
Sodium hydroxide	
CERCLA/SARA Section 313 de minimus %	Not Listed
Hazardous Substances RQs	1000 lb
California Proposition 65	Not Listed
TSCA	Present
EINECS	215-185-5
AICS	Present
Standard for Uniform Scheduling of Medicines and	Schedule 5
Poisons (SUSMP)	Schedule 6
+ SULPHURIC ACID %	
CERCLA/SARA Section 313 de minimus %	1.0 %
Hazardous Substances RQs	1000 lb
California Proposition 65	carcinogen 3/14/2003
TSCA	Present
EINECS	231-639-5
AICS	Present
Standard for Uniform Scheduling of Medicines and	Schedule 6
Poisons (SUSMP)	

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Sodium hydroxide - 1310-73-2	Use restricted. See item 75.	
+ SULPHURIC ACID % - 7664-93-9	Use restricted. See item 75.	

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Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

Skin corrosion/irritation-Cat.1A; H314 - Causes severe skin burns and eye damage

Data Sources:	Publicly available toxicity information.
Reason for revision	Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking. Updated Section 10 - Stability and Reactivity. Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 11 - Toxicology Information. Updated Section 12 - Ecological Information. Updated Section 15 - Regulatory Information.
Revision date	04-Oct-2022
Prepared By	Pfizer Global Environment, Health, and Safety

Pfizer Inc believes that the information contained in this Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.