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

#### 1.1. Product identifier

Product Name Buprenorphine Hydrochloride Injection (Hospira Inc.)

Product Code(s) PZ03252

Trade Name: Buprenorphine Hydrochloride Injection

Chemical Family: Not determined

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

Recommended Use Pharmaceutical product used as Analgesic

#### 1.3. Details of the supplier of the safety data sheet

Hospira, A Pfizer Company
275 North Field Drive
Lake Forest, Illinois 60045
Hospira UK Limited
Horizon
Honey Lane

1-800-879-3477 Hurley

Maidenhead, SL6 6RJ United Kingdom

E-mail address pfizer-MSDS@pfizer.com

## 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

Not classified as hazardous

2.2. Label elements

Signal word Not Classified

**Hazard statements** Not classified in accordance with international standards for workplace safety.

2.3. Other hazards

Other hazards

An Occupational Exposure Value has been established for one or more of the ingredients

(see Section 8).

**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.

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# Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Substances Not applicable

# 3.2 Mixtures

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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)
+ Hydrochloric Acid (CAS #: 7647-01-0)	**	-	231-595-7	Acute Tox. 3 (H331) Skin Corr. 1A (H314) Press. Gas	Eye Irrit. 2 :: 10%<=C<25% Skin Corr. 1B :: C>=25% Skin Irrit. 2 :: 10%<=C<25% STOT SE 3 :: C>=10%	No data available	No data available
Buprenorphine Hydrochloride (CAS #: 53152-21-9)	0.0324		258-396-8	Acute Tox 4 (H302) STOT SE 3 (H336)	Not Listed	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)	*	-	231-791-2	Not classified as hazardous	Not Listed	No data available	No data available
Dextrose (CAS #: 14431-43-7)	*		Not Listed	Not classified as hazardous	Not Listed	No data available	No data available

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

<u>Acute Toxicity Estimate</u> No information available

Chemical name	Oral LD50	Dermal LD50	hour - dust/mist -	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
			mg/L		
Water	89838.9	No data available	No data available	No data available	No data available
7732-18-5					
+ Hydrochloric Acid 7647-01-0	238	5010	No data available	No data available	563.3022
Buprenorphine Hydrochloride 53152-21-9	1000	No data available	No data available	No data available	No data available

Additional information

\* Proprietary

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\*\* to adjust pH

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. Non-hazardous ingredients provided for completeness.

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# Section 4: FIRST AID MEASURES

#### 4.1. Description of first aid measures

**Inhalation** Move to fresh air. If discomfort occurs, get medical attention.

**Eye contact** Rinse thoroughly with plenty of water, also under the eyelids. If irritation occurs or persists,

get medical attention.

**Skin contact** Wash off immediately with soap and plenty of 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

effects

For information on potential signs and symptoms of exposure, See Section 2 - Hazards

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 MEASURES

#### 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.

5.3. Advice for firefighters

Special protective equipment for

fire-fighters

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

Use personal protection equipment.

# Section 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective 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

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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 containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

Methods for cleaning up 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.

# Section 7: HANDLING AND STORAGE

#### 7.1. Precautions for safe handling

#### Advice on safe handling

Restrict access to work area. 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.

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

#### 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.

**Buprenorphine Hydrochloride** 

Pfizer OEL TWA-8 Hr: 0.4 µg/m³, Skin

+ Hydrochloric Acid

 ACGIH OEL (Ceiling)
 2 ppm

 ACGIH TLV
 Ceiling: 2 ppm

 Austria
 5 ppm

 8 mg/m³

8 mg/m<sup>3</sup> STEL 10 ppm STEL 15 mg/m<sup>3</sup> STEL: 10 ppm STEL: 15 0 mg/m<sup>3</sup>

Bulgaria STEL: 10 ppm STEL: 15.0 mg/m³

5 ppm 8.0 mg/m<sup>3</sup> 8 mg/m<sup>3</sup>

Czech Republic 8 mg/m³

Ceiling: 15 mg/m<sup>3</sup>

Estonia 5 ppm

8 mg/m<sup>3</sup> STEL: 10 ppm STEL: 15 mg/m<sup>3</sup>

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European Union

TWA: 5 ppm

TWA: 8 mg/m³

STEL: 10 ppm

STEL: 15 ppm

STEL: 15 mg/m³

Finland

STEL: 5 ppm

STEL: 7.6 mg/m³

Germany

2 ppm

Ceiling / Peak: 4 ppm
Ceiling / Peak: 6 mg/m³
Germany 2 ppm

3 mg/m³ Hungary 8 mg/m³

STEL: 16 mg/m³ lreland 8 mg/m³

5 hg/m 5 ppm STEL: 10 ppm

STEL: 15 mg/m<sup>3</sup> Italy 5 ppm

8 mg/m³ STEL: 10 ppm STEL: 15 mg/m³

Ceiling Limit Value 2 ppm 3.0 mg/m³

Latvia 5 ppm 8 mg/m³ STEL: 10 ppm STEL: 15 mg/m³

Netherlands 8 mg/m<sup>3</sup>

 $\begin{array}{c} \text{STEL: 15 mg/m}^3 \\ \text{Poland} \\ \text{STEL: 10 mg/m}^3 \end{array}$ 

5 mg/m<sup>3</sup>
Romania 5 ppm

8 mg/m<sup>3</sup> STEL: 10 ppm STEL: 15 mg/m<sup>3</sup> MAC: 5 mg/m<sup>3</sup>

 Russia
 MAC: 5 mg/m³

 Slovakia
 5 ppm

 8.0 mg/m³
 5 ppm

 5 ppm
 7.6 mg/m³

STEL: 10 ppm STEL: 15 mg/m<sup>3</sup> 2 ppm

3 mg/m³ STEL: 4 ppm

U.S. - OSHA - Final PELs - Ceiling Limits

STEL: 6 mg/m³
5 ppm
7 mg/m³

OSHA PEL (vacated) Ceiling: 5 ppm

(vacated) Ceiling: 7 mg/m<sup>3</sup>

Ceiling: 5 ppm Ceiling: 7 mg/m<sup>3</sup>

United Kingdom

TWA: 2 mg/m³

STEL: 5 ppm

TWA: 2 mg/m<sup>3</sup> STEL: 5 ppm STEL: 8 mg/m<sup>3</sup>

# 8.2. Exposure controls

Switzerland

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**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. Keep airborne contamination levels below the exposure limits listed above in this section. It is

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recommended that all operations be fully enclosed and no air recirculated.

**Environmental exposure controls** No information available.

Personal protective equipment Refer to applicable national standards and regulations in the selection and use of personal

protective equipment (PPE). 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.

**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 disposable gloves (e.g. Nitrile, etc.) (double 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.).

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 full mask, P3 filter).

(Respirators must meet the standards in accordance with EN136, 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 Colorless

Odor No information available.
Odor threshold No information available

Molecular formulaMixtureMolecular weightMixture

Property Values 3.5-5.5

Melting point / freezing point No data available

Boiling point / boiling range

Skin and body protection

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

Vapor pressureNo data availableVapor densityNo data availableRelative densityNo data available

Water solubility Soluble

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No data available Solubility(ies) **Partition coefficient** No data available **Autoignition temperature** No data available No data available **Decomposition temperature** Kinematic viscosity No data available **Dynamic viscosity** No data available

**Particle Size** No information available **Particle Size Distribution** No information available **Explosive properties** No information available

#### 9.2. Other information

Particle characteristics

No information available

#### 9.2.1. Information with regard to physical hazard classes

No information available

#### 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 reactions

Possibility of hazardous reactions No information available.

10.4. Conditions to avoid

Conditions to avoid Fine particles (such as dust and mists) may fuel fires/explosions.

10.5. Incompatible materials

Incompatible materials As a precautionary measure, keep away from strong oxidizers.

## 10.6. Hazardous decomposition products

Hazardous decomposition products No data available.

#### 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 individual

ingredients

May cause central nervous system effects. Short term

**Known Clinical Effects:** The most common adverse effects seen during clinical use of this drug include drowsiness,

nausea, vomiting, decrease in blood pressure (hypotension), increase in blood pressure (hypertension), respiratory depression, decreased heart rate (bradycardia), increased heart

rate (tachycardia), dizziness, sweating, headache, dry mouth, hallucinations,

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

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. Skin corrosion/irritation

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

Based on available data, the classification criteria are not met. STOT - single exposure

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STOT - repeated exposure
Reproductive toxicity
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.
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Acute Toxicity: (Species, Route, End Point, Dose)

Buprenorphine Hydrochloride
Rat Oral LD50 > 1000 mg/kg
Mouse Oral LD50 800 mg/kg

Rat IV LD50 31-62 mg/kg Mouse IV LD50 24-72 mg/kg

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
+ Hydrochloric Acid	238 - 277 mg/kg (Rat)	> 5010 mg/kg(Rabbit)	= 1.68 mg/L (Rat) 1 h
Buprenorphine Hydrochloride	> 1 g/kg (Rat)	-	-

**Acute Toxicity Comments:** 

A greater than symbol (>) indicates that the toxicity endpoint being tested was not

achievable at the highest dose used in the test.

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

# + Hydrochloric Acid

Skin irritation Severe Eye irritation Severe

#### **Buprenorphine Hydrochloride**

Guinea Pig Negative

Skin Irritation Rabbit Slight

#### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

#### **Buprenorphine Hydrochloride**

6 Month(s) Mini Pig Dermal 0.8 mg/kg/day NOAEL None identified

6 Month(s) Rabbit Dermal 15 mg/kg/day NOAEL None identified

6 Month(s) Dog Dermal 1 mg/kg/day NOAEL None identified

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

#### **Buprenorphine Hydrochloride**

Reproductive & Fertility Rat Oral 80 mg/kg/day NOAEL Negative, Fertility

Embryo / Fetal Development Rat Intramuscular Subcutaneous 5 mg/kg/day NOAEL Not Teratogenic

Embryo / Fetal Development Rabbit Intramuscular Subcutaneous 5 mg/kg/day NOAEL Not Teratogenic

Embryo / Fetal Development Rat Oral 160 mg/kg/day NOAEL Not Teratogenic

# Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

# + Hydrochloric Acid

Bacterial Mutagenicity (Ames) Salmonella

Negative

In Vivo Micronucleus Rat Negative

# **Buprenorphine Hydrochloride**

Bacterial Mutagenicity (Ames) Equivocal

Mammalian Cell Mutagenicity Hamster Bone Marrow Negative Mammalian Cell Mutagenicity Mouse Lymphoma Negative

## Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))

# **Buprenorphine Hydrochloride**

27 Month(s) Rat Oral, in feed 56 mg/kg/day NOAEL Not carcinogenic

86 Week(s) Mouse Oral, in feed 100 mg/kg/day NOAEL Not carcinogenic

100 Week(s) Rat Dermal 20 mg/kg/day NOAEL Not carcinogenic

Carcinogenicity

None of the components of this formulation are listed as a carcinogen by IARC, NTP or

OSHA.

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+ Hydrochloric Acid

IARC Group 3 (Not Classifiable)

## 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

11.2.2. Other information

Other adverse effects No information available.

# Section 12: ECOLOGICAL INFORMATION

**Environmental Overview:** Environmental properties have not been investigated. Releases to the environment should

be avoided.

12.1. Toxicity

# 12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

<u>Bioaccumulation</u> No information available.

12.4. Mobility in soil

**Mobility in soil** No information available.

#### 12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment	
+ Hydrochloric 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

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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.

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

UN number:
UN proper shipping name:
Not applicable
Transport hazard class(es):
Packing group:
Not applicable
Not applicable
Not applicable
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

Dextrose

CERCLA/SARA Section 313 de minimus % Not Listed
California Proposition 65 Not Listed
EINECS Not Listed
AICS Present

+ Hydrochloric Acid

1.0 % CERCLA/SARA Section 313 de minimus % 5000 lb **Hazardous Substances RQs California Proposition 65** Not Listed Present **TSCA EINECS** 231-595-7 **AICS** Present Standard for Uniform Scheduling of Medicines and Schedule 5 Poisons (SUSMP) Schedule 6

Buprenorphine Hydrochloride

CERCLA/SARA Section 313 de minimus % Not Listed California Proposition 65 Not Listed

U.S. - DEA (Drug Enforcement Administration) Schedule III Controlled Substance

EINECS 258-396-8
Standard for Uniform Scheduling of Medicines and Schedule 8

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

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#### Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances 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
+ Hydrochloric Acid - 7647-01-0	Use restricted. See item 75.	

#### **Persistent Organic Pollutants**

Not applicable

#### Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
+ Hydrochloric Acid - 7647-01-0	25	250

Chemical name	EU - Biocides
+ Hydrochloric Acid - 7647-01-0	Product-type 2: Disinfectants and algaecides not intended
	for direct application to humans or animals

#### 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

Acute toxicity, oral-Cat.4; H302 - Harmful if swallowed Skin corrosion/irritation-Cat.1B; H314 - Causes severe skin burns and eye damage Specific target organ toxicity, single exposure; Narcotic effects-Cat.3; H336 - May cause drowsiness and dizziness Acute toxicity, inhalation-Cat.3; H331 - Toxic if inhaled

**Data Sources:** Pfizer proprietary drug development information. Publicly available toxicity information.

Reason for revision Updated Section 6 - Accidental Release Measures. Updated Section 8 - Exposure Controls

/ Personal Protection. Updated Section 11 - Toxicology Information. Updated Section 12 -

Ecological Information. Updated Section 16 - Other Information.

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Prepared By Pfizer Global Environment, Health, and Safety

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