# SAFETY DATA SHEET



# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation

of the mixture

**ZOFRAN ORAL SOLUTION** 

Registration number

ZOFRAN ORAL SOLUTION 4 MG/5 ML \* ZOFRAN SYRUP 4 MG/5 ML \* ZOFRAN JARABE \* **Synonyms** 

ZOFRAN LOSUNG \* ZOFRAN MIKSTUR \* ZOFRAN MIXTUR \* ZOFRAN SCIROPPO \* ZOFRAN SIROP \* ZOFRAN SIRUP \* ZOFRAN STROOP \* ZOFRAN SYROP \* ZOFRAN XAROPE \* NDC NO 0173-0489-00 \* ONDANSETRON HYDROCHLORIDE DIHYDRATE, FORMULATED

PRODUCT

11

22-October-2014 Issue date

Version number

**Revision date** 22-October-2014

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

Identified uses Medicinal Product.

> This safety data sheet is written to provide health, safety and environmental information for people handling this formulated product in the workplace. It is not intended to provide information relevant

to medicinal use of the product. In this instance patients should consult prescribing

information/package insert/product label or consult their pharmacist or physician. For health and safety information for individual ingredients used during manufacturing, refer to the appropriate

safety data sheet for each ingredient.

Uses advised against No other uses are advised.

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

GlaxoSmithKline UK 980 Great West Road

Brentford, Middlesex TW8 9GS UK

UK General Information (normal business hours): +44-20-8047-5000

Email Address: msds@gsk.com Website: www.gsk.com

1.4. Emergency telephone

number

TRANSPORT EMERGENCIES::

+(44)-870-8200418 UK In-country toll call: International toll call: +1 703 527 3887

available 24 hrs/7 days; multi-language response

#### **SECTION 2: Hazards identification**

Material name: ZOFRAN ORAL SOLUTION

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

# Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

## Classification according to Regulation (EC) No 1272/2008 as amended

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

#### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

Exempt from requirements - product regulated as a medicinal product, cosmetic product or medical device.

Caution - Pharmaceutical agent. See section 11 for additional information on health hazards. 2.3. Other hazards

# **SECTION 3: Composition/information on ingredients**

### 3.2. Mixtures

#### **General information**

CAS-No. / EC No. REACH Registration No. INDEX No. **Chemical name** % **Notes** 

**D-SORBITOL** < 45 50-70-4

200-061-5 Classification: DSD: -

CLP: -

CITRIC ACID ANHYDROUS < 1 77-92-9

201-069-1

Classification: DSD: Xi;R36

CLP: Eye Irrit. 2;H319

ONDANSETRON HYDROCHLORIDE <= 0.10 103639-04-9

**DIHYDRATE** 

**DSD:** T;R25, Xi;R41, N;R50/53 Classification:

Acute Tox. 3;H301, Eye Dam. 1;H318, Aquatic Acute 1;H400, Aquatic

Chronic 2;H411

Other components below reportable levels > 57

#### List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008. DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance. PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Community workplace exposure limit(s).

Composition comments The full text for all R- and H-phrases is displayed in section 16.

## **SECTION 4: First aid measures**

**General information** In the case of accident or if you feel unwell, seek medical advice immediately (show the label

where possible). Ensure that medical personnel are aware of the material(s) involved, and take

precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Move to fresh air. If breathing is difficult, trained personnel should give oxygen. Call a physician if

symptoms develop or persist. Under normal conditions of intended use, this material is not

expected to be an inhalation hazard.

Skin contact Immediately flush skin with plenty of water. Take off contaminated clothing and wash before reuse.

Get medical attention if symptoms occur.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed, rinse mouth with water (only if the person is conscious). If ingestion of a large Ingestion amount does occur, call a poison control centre immediately. Do not induce vomiting without

advice from poison control center.

4.2. Most important symptoms and effects, both acute and

delayed

Direct contact with eyes may cause temporary irritation.

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

No specific antidotes are recommended. Treat according to locally accepted protocols. For additional guidance, refer to the current prescribing information or to the local poison control

information centre.

# **SECTION 5: Firefighting measures**

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing

Water. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing

media

media

None known.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Material name: ZOFRAN ORAL SOLUTION

Special fire fighting procedures

Move containers from fire area if you can do so without risk.

**Specific methods**Use standard firefighting procedures and consider the hazards of other involved materials.

### **SECTION 6: Accidental release measures**

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

For non-emergency

personnel

Keep unnecessary personnel away. For personal protection, see section 8.

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

For emergency responders

6.3. Methods and material for containment and cleaning up

Avoid discharge into drains, water courses or onto the ground.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

and place into containers. I ollowing product recovery, lidsh area with water

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to

remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

# **SECTION 7: Handling and storage**

7.1. Precautions for safe

handling

Avoid prolonged exposure. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10

of the SDS).

7.3. Specific end use(s) Medicinal Product.

# **SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

# **Occupational exposure limits**

Components	Туре	Value	
CITRIC ACID ANHYDROUS (CAS 77-92-9)	8 HR TWA	5000 mcg/m3	
•	OHC	1	
D-SORBITOL (CAS 50-70-4)	OHC	1	
ONDANSETRON HYDROCHLORIDE DIHYDRATE (CAS 103639-04-9)	8 HR TWA	30 mcg/m3	
,	OHC	3	

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring

procedures

Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available

Predicted no effect concentrations (PNECs)

Not available.

Exposure guidelines 8.2. Exposure controls

Appropriate engineering

controls

General ventilation normally adequate.

#### Individual protection measures, such as personal protective equipment

**General information** Personal protection equipment should be chosen according to the CEN standards and in

discussion with the supplier of the personal protective equipment. Follow all local regulations if

personal protective equipment (PPE) is used in the workplace.

Eye/face protection If contact is likely, safety glasses with side shields are recommended. (e.g. EN 166). Not normally

needed.

Skin protection

- Hand protection For prolonged or repeated skin contact use suitable protective gloves. Select suitable chemical

resistant protective gloves (EN 374) with a protective index 6 (>480min permeation time). Not

normally needed.

- Other Wear suitable protective clothing as protection against splashing or contamination. (EN 14605 for

splashes, EN ISO 13982 for dust). Not normally needed.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate

certified respirators. Where breathable aerosols/dust are formed, use suitable combination filter for gases/vapours of organic, inorganic, acid inorganic, alkaline compounds and toxic particles (eg.

EN 14387). No personal respiratory protective equipment normally required.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material

and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. For advice on suitable monitoring methods, seek guidance

from a qualified environment, health and safety professional.

**Environmental exposure controls** 

Hazard guidance and control recommendations

Environmental manager must be informed of all major releases.

# **SECTION 9: Physical and chemical properties**

# 9.1. Information on basic physical and chemical properties

**Appearance** 

Physical state Liquid. Form Liquid.

Colour
Not available.
Odour
Not available.
Odour threshold
Not available.
PH
Not available.
Melting point/freezing point
Not available.
Initial boiling point and boiling
Not available.

range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower

(%)

Not available.

Flammability limit - upper

(%)

Not available.

Vapour pressureNot available.Vapour densityNot available.Relative densityNot available.

Solubility(ies)

Solubility (water) Not available.

Solubility (other) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.Explosive propertiesNot available.Oxidizing propertiesNot available.

**9.2. Other information** No relevant additional information available.

# **SECTION 10: Stability and reactivity**

**10.1. Reactivity**The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability** Material is stable under normal conditions.

**10.3. Possibility of hazardous** No dangerous reaction known under conditions of normal use.

reactions

**10.4. Conditions to avoid**Contact with incompatible materials.

**10.5. Incompatible materials** Strong oxidising agents.

10.6. Hazardous None known. Irritating and/or toxic fumes and gases may be emitted upon the product's

decomposition products decomposition.

# **SECTION 11: Toxicological information**

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

**Inhalation** Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

**Skin contact** Health injuries are not known or expected under normal use. **Eye contact** Health injuries are not known or expected under normal use.

**Ingestion** Health injuries are not known or expected under normal use. Expected to be a low ingestion

hazard. However, ingestion is not likely to be a primary route of occupational exposure.

**Test results** 

**Symptoms** Direct contact with eyes may cause temporary irritation.

Species

## 11.1. Information on toxicological effects

Components

Components	Opecies	restresuits		
CITRIC ACID ANHYDRO	US (CAS 77-92-9)			
Acute				
Oral				
LD50	Rat	3000 mg/kg		
D-SORBITOL (CAS 50-70	0-4)			
Acute				
Oral				
LD50	Rat	15.9 g/kg		
ONDANSETRON HYDROCHLORIDE DIHYDRATE (CAS 103639-04-9)				
Acute				
Oral				
LD50	Rat	100 - 150 mg/kg		
Chronic				
Oral				
LD	Rat	> 36 mg/kg/day		
LOEL	Dog	1 mg/kg/day, 52 weeks		
NOAEL	Rat	1 mg/kg/day, 18 months		

<sup>\*</sup> Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Due to partial or complete lack of data the classification is not possible.

Corrosivity

ONDANSETRON HYDROCHLORIDE DIHYDRATE 50 %, formulated in soft paraffin.

Result: Non-irritant Species: Guinea pig

Irritation Corrosion - Skin: P.I.I. value

CITRIC ACID ANHYDROUS OECD 404

Result: Mild to moderate irritant.

Species: Rabbit

Serious eye damage/eye

Due to partial or complete lack of data the classification is not possible.

irritation

Eve

CITRIC ACID ANHYDROUS Acute ocular irritation: OECD 405

Result: Severe Irritant

Species: Rabbit

ONDANSETRON HYDROCHLORIDE DIHYDRATE OECD 405

Result: Severe Irritant Species: Rabbit

**Respiratory sensitisation**Due to partial or complete lack of data the classification is not possible. **Skin sensitisation**Due to partial or complete lack of data the classification is not possible.

Sensitisation

ONDANSETRON HYDROCHLORIDE DIHYDRATE Split adjuvant assay

Result: negative Species: Guinea pig

Material name: ZOFRAN ORAL SOLUTION

Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible.

Mutagenicity

ONDANSETRON HYDROCHLORIDE DIHYDRATE Ames

Result: negative

Chromosomal Aberration Assay In Vitro

Result: positive

HPRT gene mutation in human lymphocytes

Result: negative Micronucleus test Result: negative Species: Mouse

V79 Cell Mutagenicity Assay

Result: negative

**Carcinogenicity** Carcinogenic effects are not expected as a result of occupational exposure.

ONDANSETRON HYDROCHLORIDE DIHYDRATE

ICH S1B Result: negative Species: Mouse ICH S1B Result: negative Species: Rat

**Reproductive toxicity**Due to partial or complete lack of data the classification is not possible.

Reproductivity

ONDANSETRON HYDROCHLORIDE DIHYDRATE Embryofetal Development

Result: No effect Species: Rabbit

**Embryofetal Development** 

Result: No effect Species: Rat Fertility

Result: No effect Species: Rat

Pre- and Post-natal development

Result: negative Species: Rat

Specific target organ toxicity -

single exposure

Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity -

repeated exposure

Due to partial or complete lack of data the classification is not possible.

Due to partial or complete lack of data the classification is not possible.

Aspiration hazard

Mixture versus substance

information

No information available.

Other information Caution - Pharmaceutical agent. Occupational exposure to the substance or mixture may cause

adverse effects

## **SECTION 12: Ecological information**

**12.1. Toxicity** Not expected to be harmful to aquatic organisms.

Components Species Test results

CITRIC ACID ANHYDROUS (CAS 77-92-9)

Aquatic

Acute

Algae NOEC Green algae (Scenedesmus 425 mg/l, 8 days Static Test quadricauda)

macrochirus)

Crustacea EC50 Water flea (Daphnia magna)

Fish EC50 Bluegill sunfish (Adult Lepomis

120 mg/l, 72 hours Static test 1516 mg/l, 96 hours Static test

SDS UK

Golden ide/orfe (Adult Leuciscus idus) 440 - 760 mg/l, 96 hours Static test

ONDANSETRON HYDROCHLORIDE DIHYDRATE (CAS 103639-04-9)

Aquatic

Acute

Activated Sludge IC50 Residential sludge > 1000 mg/l, 3 hours OECD 209

Respiration

Algae EC50 Green algae (Selenastrum 0.87 mg/l, 72 hours Measured, OECD

capricornutum) 201

Material name: ZOFRAN ORAL SOLUTION

Components		Species	Test results
	NOEC	Green algae (Selenastrum capricornutum)	0.31 mg/l, 72 hours Static test
Crustacea	EC50	Water flea (Daphnia pulex)	28 mg/l, 48 hours Static test, TAD 4.08
	NOEC	Water flea (Daphnia pulex)	16 mg/l, 48 hours Static test
Fish	EC50	Rainbow trout (Adult Oncorhyncus mykiss)	6.5 mg/l, 96 hours Static test, OECD 203
	NOEC	Rainbow trout (Adult Oncorhyncus mykiss)	2.6 mg/l, 96 hours Measured
Chronic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	1.4 mg/l, 8 days Static renewal test, EPA 1002
	LOEC	Water flea (Ceriodaphnia dubia)	1 mg/l, 8 days
	NOEC	Water flea (Ceriodaphnia dubia)	0.32 mg/l, 8 days

<sup>\*</sup> Estimates for product may be based on additional component data not shown.

# 12.2. Persistence and

degradability

**Photolysis** 

UV/visible spectrum wavelength

ONDANSETRON HYDROCHLORIDE DIHYDRATE 305 nm, pH 5-9

**Hydrolysis** 

Half-life (Hydrolysis-neutral)

ONDANSETRON HYDROCHLORIDE DIHYDRATE > 1 years

Biodegradability

Percent degradation (Aerobic biodegradation-inherent)

CITRIC ACID ANHYDROUS 98 %, 2 days Modified Zahn-Wellens, Activated sludge

ONDANSETRON HYDROCHLORIDE DIHYDRATE 18.9 %, 28 days Semi-continuous activated sludge (SCAS),

Activated sludge

Percent degradation (Aerobic biodegradation-soil)

ONDANSETRON HYDROCHLORIDE DIHYDRATE 20.3 - 99.9 %, 64 days, Soil

12.3. Bioaccumulative potential

Partition coefficient

n-octanol/water (log Kow)

D-SORBITOL -2.2
ONDANSETRON HYDROCHLORIDE DIHYDRATE 0.995

**Bioconcentration factor (BCF)** 

D-SORBITOL 1 Estimated

12.4. Mobility in soil

Adsorption

Sludge/biomass distribution coefficient - log Kd

ONDANSETRON HYDROCHLORIDE DIHYDRATE 3.95 - 4.23 Calculated

Soil/sediment sorption - log Koc

D-SORBITOL 0.3 Estimated

ONDANSETRON HYDROCHLORIDE DIHYDRATE 4.22 - 4.51 Measured

Mobility in general

Volatility

Henry's law

CITRIC ACID ANHYDROUS < 0 atm m^3/mol Calculated, 25 °C

D-SORBITOL 0 atm m^3/mol Estimated

**Distribution** 

Octanol/water distribution coefficient log DOW

ONDANSETRON HYDROCHLORIDE DIHYDRATE 0.23, pH 5

0.99, pH 7 1.26, pH 9

12.5. Results of PBT

Not available.

and vPvB assessment

**12.6. Other adverse effects** Not available.

# **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some

product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions). Avoid discharge into water courses or onto the ground.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

Since emptied containers may retain product residue, follow label warnings even after container is

emptied.

**EU waste code**The Waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not

discharge into drains, water courses or onto the ground. Dispose in accordance with all applicable

regulations.

**Special precautions**Dispose in accordance with all applicable regulations.

# **SECTION 14: Transport information**

#### **ADR**

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### **IMDG**

Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of

MARPOL Annex II applies to liquids used in a ship's operation that pose a threat to the marine

environment. These materials may not be transported in bulk.

MARPOL73/78 and the IBC Code

# **SECTION 15: Regulatory information**

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

### **EU regulations**

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

# **Authorisations**

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

## Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

Material name: ZOFRAN ORAL SOLUTION

SDS UK

#### Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

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

Not listed.

Directive 94/33/EC on the protection of young people at work

The product is classified and labelled in accordance with EC directives or respective national laws. Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

**National regulations** 15.2. Chemical safety Follow national regulation for work with chemical agents. No Chemical Safety Assessment has been carried out.

assessment

**SECTION 16: Other information** 

List of abbreviations Not available.

References **GSK Hazard Determination** 

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation

methods and test data, if available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R25 Toxic if swallowed. R36 Irritating to eyes.

R41 Risk of serious damage to eyes.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

H301 Toxic if swallowed.

H318 Causes serious eye damage. H319 Causes serious eye irritation. H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects. May form combustible dust concentrations in air.

**Revision information** Product and Company Identification: Product and Company Identification

Composition / Information on Ingredients: Undisclosed Ingredient Statement

Physical & Chemical Properties: **Ecological Information: Ecotoxicity** 

Transport Information: Agency Name and Packaging Type/Transport Mode Selection

Regulatory Information: United States

Material Attributes & Uses; Experimental Data: Material Uses

**Training information** 

Follow training instructions when handling this material.

The information and recommendations in this safety data sheet are, to the best of our knowledge, Disclaimer

accurate as of the date of issue. Nothing herein shall be deemed to create any warranty, express or implied. It is the responsibility of the user to determine the applicability of this information and

the suitability of the material or product for any particular purpose.

Material name: ZOFRAN ORAL SOLUTION