

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Revision Date 09-Feb-2024 Revision Number 8

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

### 1.1. Product identifier

Product Description: 4-Fluorophenylmagnesium bromide, 2M solution in diethyl ether

Cat No. : 377370000; 377371000; 377378000

Molecular Formula C6 H4 Br F Mg

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

Recommended Use Laboratory chemicals. Uses advised against No Information available

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

Company

UK entity/business name

Fisher Scientific UK Bishop Meadow Road,

Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name

Thermo Fisher Scientific

Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

# **SECTION 2: HAZARDS IDENTIFICATION**

# 2.1. Classification of the substance or mixture

# CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

### **Physical hazards**

Flammable liquids Category 1 (H224) Substances/mixtures which, in contact with water, emit flammable gases Category 2 (H261)

**Health hazards** 

Acute oral toxicity Category 4 (H302)
Skin Corrosion/Irritation Category 1 B (H314)

ACR37737

### 4-Fluorophenylmagnesium bromide, 2M solution in diethyl ether

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Serious Eye Damage/Eye Irritation

Specific target organ toxicity - (single exposure)

Category 1 (H318) Category 3 (H336)

### **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

### 2.2. Label elements



#### Signal Word

### **Danger**

#### **Hazard Statements**

H224 - Extremely flammable liquid and vapor

H261 - In contact with water releases flammable gases

H302 - Harmful if swallowed

H336 - May cause drowsiness or dizziness

H314 - Causes severe skin burns and eye damage

EUH019 - May form explosive peroxides

EUH066 - Repeated exposure may cause skin dryness or cracking

EUH014 - Reacts violently with water

### **Precautionary Statements**

P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P233 - Keep container tightly closed

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

### 2.3. Other hazards

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

# **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Magnesium, bromo(4-fluorophenyl)-	352-13-6		38-42	Water-react. 2 (H261) Skin Corr. 1B (H314) Eye Dam. 1 (H318) (EUH014)
Ethyl ether	60-29-7	EEC No. 200-467-2	58-62	Flam. Liq. 1 (H224) Acute Tox. 4 (H302) STOT SE 3 (H336) (EUH019) (EUH066)

Full text of Hazard Statements: see section 16

# **SECTION 4: FIRST AID MEASURES**

### 4.1. Description of first aid measures

Eye Contact Immediate medical attention is required. Rinse immediately with plenty of water, also under

the eyelids, for at least 15 minutes.

**Skin Contact** Wash off immediately with soap and plenty of water while removing all contaminated

clothes and shoes. Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Call a physician immediately.

**Inhalation** Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial

respiration. Immediate medical attention is required.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

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

Causes burns by all exposure routes. Difficulty in breathing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

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

Notes to Physician Treat symptomatically.

# **SECTION 5: FIREFIGHTING MEASURES**

### 5.1. Extinguishing media

# **Suitable Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water mist may be used to cool closed containers.

### Extinguishing media which must not be used for safety reasons

Water. Foam.

# 5.2. Special hazards arising from the substance or mixture

Extremely flammable. Contact with water liberates toxic gas. Water reactive. Produce flammable gases on contact with water. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO2), Fumes, Hydrogen halides, Magnesium oxides, Gaseous hydrogen fluoride (HF).

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

# **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Remove all sources of ignition. Take precautionary measures against static discharges.

### 6.2. Environmental precautions

See Section 12 for additional Ecological Information.

### 6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not expose spill to water.

#### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

### **SECTION 7: HANDLING AND STORAGE**

### 7.1. Precautions for safe handling

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Do not allow contact with water because of violent reaction. If peroxide formation is suspected, do not open or move container. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and flame. Protect from direct sunlight. Store at room temperature. Keep from any possible contact with water. Corrosives area. Flammables area. Keep under nitrogen. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical Rules for Hazardous Substances (TRGS) 510 Class 4.3 Storage Class (LGK) (Germany)

### 7.3. Specific end use(s)

Use in laboratories

# **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### 8.1. Control parameters

### **Exposure limits**

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations,

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Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Ethyl ether	STEL: 200 ppm 15 min	TWA: 100 ppm (8h)	TWA: 100 ppm 8 hr.
	STEL: 620 mg/m <sup>3</sup> 15 min	TWA: 308 mg/m <sup>3</sup> (8h)	TWA: 308 mg/m <sup>3</sup> 8 hr.
	TWA: 100 ppm 8 hr	STEL: 200 ppm (15min)	STEL: 200 ppm 15 min
	TWA: 310 mg/m <sup>3</sup> 8 hr	STEL: 616 mg/m <sup>3</sup> (15min)	STEL: 616 mg/m <sup>3</sup> 15 min

# **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

# Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)	
Ethyl ether				DNEL = 44mg/kg	
60-29-7 ( 58-62 )				bw/day	

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)	
Ethyl ether 60-29-7 ( 58-62 )		DNEL = 616mg/m <sup>3</sup>		DNEL = 308mg/m <sup>3</sup>	

### **Predicted No Effect Concentration (PNEC)**

See values below.

Component	Component Fresh water		Water Intermittent	ater Intermittent Microorganisms in	
		sediment		sewage treatment	
Ethyl ether	PNEC = 2mg/L	PNEC = 9.14mg/kg	PNEC = 1.65mg/L	PNEC = 4.2mg/L	PNEC = 0.66mg/kg
60-29-7 ( 58-62 )		sediment dw	-		soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Ethyl ether	PNEC = 0.2mg/L	PNEC =			
60-29-7 ( 58-62 )		0.914mg/kg			
		sediment dw			

# 8.2. Exposure controls

### **Engineering Measures**

Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material Natural rubber Nitrile rubber	Breakthrough time See manufacturers recommendations	Glove thickness	EU standard EN 374	Glove comments (minimum requirement)
Neoprene PVC				

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

### 4-Fluorophenylmagnesium bromide, 2M solution in diethyl ether

Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information) Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g.

sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

No protective equipment is needed under normal use conditions. **Respiratory Protection** 

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits Large scale/emergency use

are exceeded or if irritation or other symptoms are experienced

Small scale/Laboratory use Maintain adequate ventilation

**Environmental exposure controls** No information available.

# **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

#### 9.1. Information on basic physical and chemical properties

**Physical State** Liquid

**Appearance** Amber pungent Odor

**Odor Threshold** No data available Melting Point/Range No data available **Softening Point** No data available

No information available **Boiling Point/Range** 

Flammability (liquid) Extremely flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

**Explosion Limits** No data available

-40 °C / -40 °F Method - No information available Flash Point

No data available **Autoignition Temperature Decomposition Temperature** No data available

No information available pН No data available **Viscosity Water Solubility** vigorous reaction Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

log Pow Component Ethyl ether 0.82

**Vapor Pressure** No data available

**Density / Specific Gravity** 1.043

**Bulk Density** Not applicable Liquid **Vapor Density** No data available (Air = 1.0)

Not applicable (liquid) Particle characteristics

### 9.2. Other information

Molecular Formula C6 H4 Br F Mg

**Molecular Weight** 199.3

**Explosive Properties** Vapors may form explosive mixtures with air

Substances/mixtures which, in Emitted gas ignites spontaneously

contact with water, emit flammable

gases

# **SECTION 10: STABILITY AND REACTIVITY**

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4-Fluorophenylmagnesium bromide, 2M solution in diethyl ether

10.1. Reactivity

Yes

10.2. Chemical stability

May form explosive peroxides. Reacts violently with water. heat sensitive. Moisture

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sensitive. Air sensitive. Light sensitive.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous Reactions

No information available. No information available.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat. Excess heat. Exposure to air. Exposure to light. Incompatible products. Exposure to moist air or water. Keep away from open

flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Acids. Bases. Alcohols.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO2). Fumes. Hydrogen halides. Magnesium

oxides. Gaseous hydrogen fluoride (HF).

# **SECTION 11: TOXICOLOGICAL INFORMATION**

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

# **Product Information**

(a) acute toxicity;

Oral Category 4

DermalBased on available data, the classification criteria are not metInhalationBased on available data, the classification criteria are not met

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	
Ethyl ether	1215 mg/kg (Rat)	20 mL/kg (Rabbit)	32000 ppm (Rat) 4 h	

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

RespiratoryNo data availableSkinNo data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

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(h) STOT-single exposure; Category 3

Central nervous system (CNS). Results / Target organs

(i) STOT-repeated exposure; No data available

**Target Organs** No information available.

No data available (j) aspiration hazard;

Other Adverse Effects The toxicological properties have not been fully investigated.

delayed

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness,

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nausea and vomiting.

### 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any

known or suspected endocrine disruptors.

# **SECTION 12: ECOLOGICAL INFORMATION**

12.1. Toxicity **Ecotoxicity effects** 

Component Freshwater Fish Water Flea Freshwater Algae EC50 = 165 mg/L/24hEthyl ether LC50: > 10000 mg/L, 96h static (Lepomis macrochirus) LC50: = 2560 mg/L, 96h flow-through (Pimephales promelas)

Component	Microtox	M-Factor
Ethyl ether	EC50 = 5600 mg/L 15 min	

#### 12.2. Persistence and degradability

**Persistence** 

Soluble in water, Persistence is unlikely, based on information available.

#### Bioaccumulation is unlikely 12.3. Bioaccumulative potential

Component	log Pow	Bioconcentration factor (BCF)
Ethyl ether	0.82	No data available

The product is water soluble, and may spread in water systems . Will likely be mobile in the 12.4. Mobility in soil

environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB

assessment

No data available for assessment.

12.6. Endocrine disrupting

properties

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors 12.7. Other adverse effects **Persistent Organic Pollutant Ozone Depletion Potential** 

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

### **SECTION 13: DISPOSAL CONSIDERATIONS**

13.1. Waste treatment methods

Waste from Residues/Unused

**Products** 

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging** 

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

**European Waste Catalogue (EWC)** 

According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

# **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

14.1. UN number UN3399

ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE 14.2. UN proper shipping name

14.3. Transport hazard class(es) 4.3 3 **Subsidiary Hazard Class** Ι 14.4. Packing group

<u>ADR</u>

14.1. UN number

14.2. UN proper shipping name ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE

14.3. Transport hazard class(es) 4.3 3 **Subsidiary Hazard Class** 14.4. Packing group Ι

IATA

UN3399 14.1. UN number

ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE\* 14.2. UN proper shipping name

4.3 14.3. Transport hazard class(es) **Subsidiary Hazard Class** 3 14.4. Packing group

Ι

14.5. Environmental hazards No hazards identified

No special precautions required. 14.6. Special precautions for user

14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

# **SECTION 15: REGULATORY INFORMATION**

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

### **International Inventories**

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Magnesium, bromo(4-fluorophenyl)-	352-13-6	-	-	-	1	Х	-	-	Х
Ethyl ether	60-29-7	200-467-2	ı	-	X	X	KE-27690	Χ	Х

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive		NDSL	AICS	NZIoC	PICCS
Magnesium, bromo(4-fluorophenyl)-	352-13-6	Х	ACTIVE	-	Х	-	Х	-
Ethyl ether	60-29-7	Х	ACTIVE	Χ		Χ	Χ	Χ

Legend: X - Listed '-' - Not Listed KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

### Authorisation/Restrictions according to EU REACH

Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Magnesium, bromo(4-fluorophenyl)-	352-13-6	-	-	-
Ethyl ether	60-29-7	-	-	-

# Seveso III Directive (2012/18/EC)

Compo	nent	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Magnes bromo(4-fluo	,	352-13-6	Not applicable	Not applicable
Ethyl e	ther	60-29-7	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

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 .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

### **National Regulations**

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

# **WGK Classification** Water endangering class = 1 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Magnesium,	WGK2	

### 4-Fluorophenylmagnesium bromide, 2M solution in diethyl ether

bromo(4-fluorophenyl)-		
Ethyl ether	WGK1	

Component	France - INRS (Tables of occupational diseases)	
Ethyl ether	Tableaux des maladies professionnelles (TMP) - RG 84	

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Ethyl ether 60-29-7 ( 58-62 )		Group I	

### 15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

# SECTION 16: OTHER INFORMATION

#### Full text of H-Statements referred to under sections 2 and 3

H224 - Extremely flammable liquid and vapor

H261 - In contact with water releases flammable gases

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

H336 - May cause drowsiness or dizziness

EUH014 - Reacts violently with water

EUH019 - May form explosive peroxides

EUH066 - Repeated exposure may cause skin dryness or cracking

#### Legend

**CAS** - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

> **ENCS** - Japanese Existing and New Chemical Substances **AICS** - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level RPE - Respiratory Protective Equipment LC50 - Lethal Concentration 50% NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% POW - Partition coefficient Octanol:Water vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate VOC - (Volatile Organic Compound)

### Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

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### 4-Fluorophenylmagnesium bromide, 2M solution in diethyl ether

Physical hazards
Health Hazards
Calculation method
Environmental hazards
Cn basis of test data
Calculation method

### **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date 09-Feb-2024 Revision Summary Not applicable.

# This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

#### **Disclaimer**

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

# **End of Safety Data Sheet**