

# Firmenich

## GHS Safety Data Sheet - US

According to Regulation HCS 2012

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

### 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

**978880**  
RHUBOFIX®  
© Firmenich product

CAS No: 41816-03-9  
EC No:  
REACH No: 01-2120085380-59

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

Fragrance ingredient for use in consumer products.  
Not for personal use in this form or concentration.  
Intended to be used in the manufacture of products for consumers

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

**John Carey**  
Firmenich Inc.  
250 Plainsboro Road  
Princeton - New Jersey 08536 - USA  
john.carey@firmenich.com  
Tel.: +1.609.452.1000

#### 1.4 Emergency telephone number

FOR INFORMATION OR IN AN EMERGENCY CALL NCEC @ +1 215 207 0061.

### 2 HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

According to Regulation HCS 2012

Environmental Hazard (chronic) - Cat. 2

H411

#### Additional information

Full text of listed statements : See section 16

#### 2.2 Label elements

**Hazard pictograms:**

# Firmenich

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**Signal Word:**

-

**Hazard Statements:**

H411 Toxic to aquatic life with long lasting effects.

**Precautionary Statements:**

P273 Avoid release to the environment.  
P391 Collect spillage.

2.3 Other hazards

No data available at this time.

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

The exact percentage (concentration) of composition has been withheld as a trade secret.

**3.1 Substance**

Chemical substance.

Contains :

>= 99.0 <= 100.0%  
Spiro[1,4-Methanonaphthalene-2(1h),2'-Oxirane],  
3,4,4a,5,8,8a-Hexahydro-3',7-Dimethyl-  
N° CAS : 0041816-03-9  
N° ELINCS: --  
N° REACH: 01-2120085380-59

GHS Classification:

Environmental Hazard (chronic) - Cat. 2 [H411]

### 4 FIRST-AID MEASURES

4.1 Description of first aid measures

General information:

As in all cases of potential poisoning, Obtain medical advice immediately.

In case of eye contact:

In the event of contact with the eyes, irrigate with water for at least 15 minutes; obtain medical advice if irritation persists.

# Firmenich

## GHS Safety Data Sheet - US

According to Regulation HCS 2012

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In case of inhalation:

In the event of exposure to vapors, immediately remove from the area to a fresh air environment.

In case of skin contact:

Remove contaminated clothes. Wash skin with large volumes of water.

If irritation persists, or any sign of tissue damage is apparent, obtain medical advice immediately.

In case of ingestion:

In the event of accidental ingestion, rinse mouth with water. Give up to one tumbler (half pint) of milk or water.

Obtain medical advice immediately.

Do not induce vomiting, obtain medical advice immediately.

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

No specific data available.

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

No specific data available.

### **5 FIRE-FIGHTING MEASURES**

#### 5.1 Extinguishing media

In the event of fire, adequate extinguishers should be used. Avoid inhalation of smoke and fumes. In case of insufficient ventilation, wear suitable respiratory equipment.

Use standard procedures and preferred extinguishing media as stated below.

Extinguishing media: Foam, carbon dioxide or dry chemical.

#### 5.2 Special hazard arising from the substance or mixture

None.

#### 5.3 Advice for fire-fighters

No specific advice.

### **6 ACCIDENTAL RELEASE MEASURES**

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

For non-emergency personnel:

Impervious gloves should be worn when handling spillages. No smoking. Avoid naked flames or other potential sources of ignition (eg. electrical equipment).

Avoid skin contamination and inhalation of vapour.

Individual washing routines should be followed after any potential contact.

Ensure adequate ventilation in working areas following accidental releases.

For emergency personnel:

Apply the same recommendations as section 6.1

#### 6.2 Environmental precautions

Do not discharge directly into drains, air, into soil or into the aquatic environment.

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

# Firmenich

## GHS Safety Data Sheet - US

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### For containment:

Small spills can be wiped up with a cloth or paper. Standard absorbents can be used (saw dust, sand, vermiculite). Wear rubber gloves. Avoid contact with skin. If skin contact occurs, wash liberally with soap and water.

### For cleaning-up:

Spillages should be disposed of in accordance with Governmental Regulations.

## **7 HANDLING AND STORAGE**

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes.

Wear impervious gloves protection and eye/face protection.

No smoking. Avoid any sources of ignition.

Avoid exposing to high temperature during processing.

Do not ingest or apply to the skin as such. Good personal washing routines should be followed.

Maintain adequate local and general ventilation where product is handled.

### Protective measures

Keep strict control of dust accumulation to a minimum. Maintain adequate local and general ventilation where product is handled. Avoid any sources of ignition.

### Advice on general occupational hygiene

Good personal washing routines should be followed.

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

It is good general practice to store in closed, preferably full, containers away from heat sources, and protected from extremes of temperature. Do not re-use the empty container.

Respect general rules for compatibility storage.

### 7.3 Specific end use(s)

Not available at this time.

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

### 8.1 Control parameters

Contains no substances with occupational exposure limit values

### **Derived No Effect Level (DNEL)**

DNEL Worker (dermal), systemic effects - long-term, = 3.09 mg/kg bw/day

DNEL Worker (inhalation), systemic effects - long-term, = 10.9 mg/m<sup>3</sup>

DNEL Consumer (oral), systemic effects - long-term, = 1.11 mg/kg bw/day

DNEL Consumer (inhalation), systemic effects - long-term, = 1.92 mg/m<sup>3</sup>

DNEL Consumer (dermal), systemic effects - long-term, = 1.11 mg/kg bw/day

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

PNEC Aqua (freshwater) = 1.83 µg/l

PNEC Aqua (marine water) = 0.183 µg/l

# Firmenich

## GHS Safety Data Sheet - US

According to Regulation HCS 2012

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PNEC Water (intermittent release) freshwater = 0.018 mg/l  
PNEC Water (intermittent release) marine water = 0.002 mg/l  
PNEC Sediment (freshwater) = 0.175 mg/kg sediment dw  
PNEC Sediment (marine water) = 0.018 mg/kg sediment dw  
PNEC STP = 4.46 mg/l  
PNEC Soil = 0.05 mg/kg soil dw  
PNEC Air No hazard identified.  
PNEC Oral (secondary poisoning) No potential for bioaccumulation

### 8.2 Exposure controls

Avoid exposing to high temperature during processing.  
Maintain adequate local and general ventilation where product is handled.

### Appropriate engineering controls

Maintain adequate local and general ventilation where product is handled and dispensed.

### Environmental exposure controls

Not available at this time. Minimize release to the environment.

### Personal protection

Respiratory protection: None required; avoid breathing vapors.  
Hand protection: Adequate and Impervious Protective Gloves should be worn.  
Eye protection: Adequate safety glasses should be used.  
Skin protection: Wear protective clothing, overall if necessary to limit the odour contamination of personal clothing. Individual washing routines should be followed after any potential contact.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance :	LIQUID
Colour :	COLOURLESS
Odour :	Characteristic strong odour according to the commercial description of the substance.
pH :	Not available
Melting point/range (°C) :	< -20 °C (OECD 102)
Initial boiling point/range (°C) :	= 281 °C at 97.1kPa (OECD 103)
Flash point (closed cup) :	> 212 Fahrenheit (> 100 Centigrade)
Evaporation rate :	Not available
Flammability (solid/gas) :	Not applicable
Explosive properties (St class) :	N/A
Vapor pressure (At 20°C in mm Hg) :	< 0.1 mm
Vapour density :	Not available
Relative density (d 20/20) :	= 1.011 at 20°C (OECD 109)
Water solubility (20°C) :	= 21.56 - 276.1 mg/l at 25°C (QSAR-WS)
Partition coef. (n-octanol/water) :	Log Kow = 2.45 - 3.85 (QSAR-LogKow)
Auto-ignition temperature (°C) :	= 260 °C at 99.8 to 100.5kPa (Method A15)
Decomposition temperature :	Not available

# Firmenich

## GHS Safety Data Sheet - US

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Viscosity : Not available  
Explosive properties : Not available  
Oxidizing properties : Not available

### 9.2 Other safety information

None

## **10 STABILITY AND REACTIVITY**

### 10.1 Reactivity

No reaction known with water.

### 10.2 Chemical stability

Presents no significant reactivity hazard. Normally stable even at elevated temperatures and pressures. Avoid temperatures above or near to the flash point. Not pyrophoric nor reactive with water. Does not undergo explosive decomposition, is shock stable, and is not an oxygen donor. Does not form explosive mixtures with other organic materials. Will not undergo hazardous exothermic polymerization.

### 10.3 Possibility of hazardous reactions

Not known.

### 10.4 Conditions to avoid

Avoid temperatures above or at least 5 °C below flash point for any flammable liquids.  
Do not heat closed containers.  
Avoid contact with oxidizing agents.

### 10.5 Incompatible materials

Avoid strong oxidizing agents.

### 10.6 Hazardous decomposition products

Contact with water or storage under recommended conditions for one year should not produce dangerous decomposition products.

## **11 TOXICOLOGICAL INFORMATION**

### **11.1 Information on toxicological effects**

#### (a) acute toxicity

Acute oral toxicity (Rat, Gavage): LD50 = 3100 mg/kg

Acute dermal toxicity (Rabbit, Occlusive): LD50 > 2000 mg/kg

#### (b) skin corrosion/irritation

Primary Skin irritation (OECD 404 modified) (Rabbit, Occlusive): Non irritant

#### (c) serious eye damage/irritation

Acute Eye irritation (Rabbit, No washout): Non irritant

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(d) respiratory or skin sensitisation

Guinea pig Maximisation test (OECD 406): Non-sensitising to skin

(e) germ cell mutagenicity

Bacterial Reverse Mutation test (Ames) (Salmonella + E. Coli, OECD 471, With and without S9, 5 strains): Non mutagenic

In vitro mammalian cell gene mutation test (Chinese hamster, V79 cells, OECD 476): Non mutagenic

In vitro Mammalian Cell Micronucleus Test (Human, OECD 487, With and without S9): Non mutagenic

(f) carcinogenicity

No data available

(g) reproductive toxicity

Combined Repeat. Dose Tox. & Reprod./Develop. Tox. Screening (Rat, OECD 422, Dietary, 28 day(s)):

NOAEL = 663 mg/kg/day (Males)

NOAEL (fertility) = 760 mg/kg/day

NOAEL (development) = 760 mg/kg/day

(h) STOT-single exposure

No data available

(i) STOT-repeated exposure

No data available

(j) aspiration hazard

No data available

## **12 ECOLOGICAL INFORMATION**

### 12.1 Toxicity

Alga, Growth Inhibition Test ( ECOSAR): 96 h EC50 = 2.18 mg/l

Daphnia sp. Acute Immobilisation Test and Reproduction Test (ECOSAR): 48h EC50 = 2.92 mg/l

Fish, Acute Toxicity Test ( ECOSAR): 96h LC50 = 2.35 mg/l

Activated Sludge, Respiration Inhibition Test (OECD 209):

3h EC50 = 214 mg/l

3h NOEC = 30.6 mg/l

### 12.2 Persistence and degradability

Ready Biodegradation - Closed Bottle Test (OECD 301D, Sludge): Non readily biodegradable (4% in 28 day(s))

Hydrolysis as a Function of pH (OECD 111): Estimated Half-life = 1.5 day(s) Unstable

### 12.3 Bioaccumulative potential

Log Kow = 2.45 - 3.85 (QSAR-LogKow)

# Firmenich

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### 12.4 Mobility in soil

Adsorption coefficient: Log Koc = 2.099 - 2.964

### 12.5 Results of PBT and vPvB assessment

Not applicable

### 12.6 Other adverse effects

No data available

## **13 DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

Product: The product should be handled according to the instructions given under sections 6, 7 and 8. Dispose of according to local or national regulations. The product should not be allowed to enter drains or the environment.

Contaminated packaging: Empty packaging should be disposed according to local or national regulations by an approved waste handling

## **14 TRANSPORT INFORMATION**

In case of accidental spillage or fire during transport, refer to instructions given under points 5, 6, 7 and 8 above.

### UNO

UN-No: 3082  
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (RHUBOFIX)  
Class: 9  
Packing Group: III  
Hazardous to the Environment

### Land transport (ADR/RID)

UN-No: 3082  
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (RHUBOFIX)  
Class: 9  
Packing group: III

### Sea transport (IMDG-Code)

UN-No: 3082  
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (RHUBOFIX)  
Class: 9  
Packing group: III  
Marine pollutant



# Firmenich

## GHS Safety Data Sheet - US

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### Air transport (ICAO-IATA)

UN-No: 3082  
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (RHUBOFIX)  
Class: 9  
Packing group: III

## **15 REGULATORY INFORMATION**

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

This chemical is NOT subject to reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 29 CFR Part 1910.1200.

### 15.2 Chemical Safety Assessment

No data available at this time.

## **16 OTHER INFORMATION**

### Revisions

Jun-2019 : Version 9.0 - Updates to sections 1, 2, 3 ,8 ,9, 11, 12, 14, 15, 16

### Key literature references

RIFM database  
OECD SIDS  
EU IUCLID  
Supplier information

### Full text of phrases used under section 2

H411 Toxic to aquatic life with long lasting effects.  
P273 Avoid release to the environment.  
P391 Collect spillage.

### Full text of phrases used under section 3

H411 Toxic to aquatic life with long lasting effects.

**We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Firmenich, it is the user's obligation to determine conditions of safe use of the product.**

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