



SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

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

1.1. Product identifier

Product name : RHUBOFIX© 978880

Product code : W18070.

N°REACH: 01-2120085380-59

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

Use of the substance/mixture: Raw material used in perfumery preparations.

1.3. Details of the supplier of the safety data sheet

Registered company name : Firmenich Grasse SAS.

Address : Parc Industriel Les Bois de Grasse 106 Avenue Louison Bobet.06130.GRASSE.FRANCE.

Telephone : Tel: +33 (0)4 93 70 80 80. Fax : .

GRS.EU.FRAGRANCE.EXPERTS@firmenich.com

Distributor : BLH s.a.s.

Address : ZAC du Pilon - 06460 SAINT VALLIER DE THIEY

Tél : 04 92 60 35 60 - Fax : 04 92 60 35 69

Website : www.blhsas.com

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : INRS / ORFILA <http://www.centres-antipoison.net>.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

This substance does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :



GHS09

Hazard statements :

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements - Prevention :

P273 Avoid release to the environment.

Precautionary statements - Response :

P391 Collect spillage.

2.3. Other hazards

The substance does not fulfil the PBT or vPvP criteria in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

> Composition :

| Identification | Classification (EC) 1272/2008 | Note | % |
|---|----------------------------------|------|--------|
| CAS: 41816-03-9 REACH: 01-2120085380-59 | GHS09 Aquatic Chronic 2, H411 | | 99-100 |
| SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- | | | |

> **Specific concentration limits:**

| Identification | Specific concentration limits | ATE |
|---|-------------------------------|---------------------------|
| CAS: 41816-03-9 REACH: 01-2120085380-59 SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- | | oral: ATE = 3100 mg/kg BW |

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. description of first aid measures**In the event of swallowing :**

Seek medical attention, showing the label.

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

No data available.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media**5.2. Special hazards arising from the substance or mixture**

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

5.3. Advice for firefighters

No data available.

SECTION 6 : ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the substance is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Fire prevention :

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the substance is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

>SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

No data available.

> Derived no effect level (DNEL) or derived minimum effect level (DMEL):

SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- (CAS: 41816-03-9)

Final use:**Workers.**

Exposure method:

Dermal contact.

Potential health effects:

Long term systemic effects.

DNEL :

3.09 mg/kg body weight/day

Exposure method:

Inhalation.

Potential health effects:

Long term systemic effects.

DNEL :

10.9 mg of substance/m3

Final use:**Consumers.**

Exposure method:

Ingestion.

Potential health effects:

Long term systemic effects.

DNEL :

1.11 mg/kg body weight/day

Exposure method:

Dermal contact.

Potential health effects:

Long term systemic effects.

DNEL :

1.11 mg/kg body weight/day

Exposure method:

Inhalation.

Potential health effects:

Long term systemic effects.

DNEL :

1.92 mg of substance/m3

> Predicted no effect concentration (PNEC):

SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- (CAS: 41816-03-9)

Environmental compartment:

Soil.

PNEC :

0.028 mg/kg

Environmental compartment:

Fresh water.

PNEC :

0.007 mg/l

Environmental compartment:

Sea water.

PNEC :

0.001 mg/l

Environmental compartment:

Intermittent waste water.

PNEC :

0.007 mg/l

Environmental compartment:

Fresh water sediment.

PNEC :

0.12 mg/kg

Environmental compartment:

Marine sediment.

| | |
|----------------------------|------------------------------|
| PNEC : | 0.012 mg/kg |
| Environmental compartment: | Waste water treatment plant. |
| PNEC : | 4.46 mg/l |

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

> - Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

- Body protection

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

>SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state

Physical state : Fluid liquid.

> Colour

Unspecified

> Odour

Odour threshold : Not stated.

> Melting point

Melting point/melting range : < -20 °C

> Freezing point

Freezing point / Freezing range : Not stated.

> Boiling point or initial boiling point and boiling range

Boiling point/boiling range : = 281 °C

> Flammability

Flammability (solid, gas) : Not stated.

> Lower and upper explosion limit

Explosive properties, lower explosivity limit (%) Not stated.

:

Explosive properties, upper explosivity limit (%) Not stated.

:

Flash point

Flash Point Interval : FP > 100°C.

Auto-ignition temperature

Self-ignition temperature : 260 °C.

Decomposition temperature

Decomposition point/decomposition range : Not specified.

- > **pH**
pH : Not relevant.
pH (aqueous solution) : Not stated.
- > **Kinematic viscosity**
Viscosity : Not stated.
- > **Solubility**
Water solubility : Insoluble.
Fat solubility : Not stated.
- Partition coefficient n-octanol/water (log value)**
Partition coefficient: n-octanol/water : Log Kow = 2.45 - 3.85
- Vapour pressure**
Vapour pressure (50°C) : Not relevant.
- Density and/or relative density**
Density : CoA
- > **Relative vapour density**
Vapour density : Not stated.
- > **Particle characteristics**
The substance does not contain nanoforms.
- 9.2. Other information**
No data available.
- 9.2.1. Information with regard to physical hazard classes**
No data available.
- 9.2.2. Other safety characteristics**
No data available.

SECTION 10 : STABILITY AND REACTIVITY

- 10.1. Reactivity**
No data available.
- 10.2. Chemical stability**
This substance is stable under the recommended handling and storage conditions in section 7.
- 10.3. Possibility of hazardous reactions**
No data available.
- 10.4. Conditions to avoid**
No data available.
- 10.5. Incompatible materials**
Keep away from :
- oxidising agents
- 10.6. Hazardous decomposition products**
The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO₂)

>SECTION 11 : TOXICOLOGICAL INFORMATION**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

No data available.

11.1.1. Substances

- > **Acute toxicity :**
SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- (CAS: 41816-03-9)
Oral route : LD50 = 3100 mg/kg bodyweight/day
Species : Rat
- Dermal route : LD50 > 2000 mg/kg bodyweight/day
Species : Rabbit

> **Germ cell mutagenicity :**

SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- (CAS: 41816-03-9)
Ames test (in vitro) : Negative.

11.2. Information on other hazards

> **SECTION 12 : ECOLOGICAL INFORMATION**

Toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.2. Persistence and degradability

> **12.2.1. Substances**

SPIRO[1,4-METHANONAPHTHALENE-2(1H),2'-OXIRANE],3,4,4A,5,8,8A-HEXAHYDRO-3',7-DIMETHYL- (CAS: 41816-03-9)
Biodegradability : Non-rapidly degradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the substance and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

> **SECTION 14 : TRANSPORT INFORMATION**

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2023 - IMDG 2022 [41-22] - ICAO/IATA 2023 [64]).

14.1. UN number or ID number

3082

> **14.2. UN proper shipping name**

UN3082=ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

(spiro[1,4-methanonaphthalene-2(1h),2'-oxirane],3,4,4a,5,8,8a-hexahydro-3',7-dimethyl-)

14.3. Transport hazard class(es)

- Classification :



9

14.4. Packing group

III

14.5. Environmental hazards

- Environmentally hazardous material :

**14.6. Special precautions for user**

| ADR/RID | Class | Code | Pack gr. | Label | Ident. | LQ | Provis. | EQ | Cat. | Tunnel |
|---------|-------|------|----------|-------|--------|-----|-----------------|----|------|--------|
| | 9 | M6 | III | 9 | 90 | 5 L | 274 335 375 601 | E1 | 3 | - |

Not subject to this regulation if Q ≤ 5 l / 5 kg (ADR 3.3.1 - DS 375)

| IMDG | Class | 2°Label | Pack gr. | LQ | EMS | Provis. | EQ | Stowage Handling | Segregation |
|------|-------|---------|----------|-----|----------|-------------|----|------------------|-------------|
| | 9 | - | III | 5 L | F-A. S-F | 274 335 969 | E1 | Category A | - |

Not subject to this regulation if Q ≤ 5 l / 5 kg (IMDG 3.3.1 - 2.10.2.7)

| IATA | Class | 2°Label | Pack gr. | Passager | Passager | Cargo | Cargo | note | EQ |
|------|-------|---------|----------|----------|----------|-------|-------|-----------------------|----|
| | 9 | - | III | 964 | 450 L | 964 | 450 L | A97 A158 A197 A215 | E1 |
| | 9 | - | III | Y964 | 30 kg G | - | - | A97 A158 A197 A215 | E1 |

Not subject to this regulation if Q ≤ 5 l / 5 kg (IATA 4.4.4 - DS A197)

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

Marine pollutant (IMDG 3.1.2.9):(spiro[1,4-methanonaphthalene-2(1h),2'-oxirane],3,4,4a,5,8,8a-hexahydro-3',7-dimethyl-)

14.7. Maritime transport in bulk according to IMO instruments

No data available.

>SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****> Classification and labelling information included in section 2:**

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

Container information:

No data available.

> Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):

Substance not restricted under Annex XVII of Regulation (EC) no. 1907/2006 (REACH):
<https://echa.europa.eu/substances-restricted-under-reach>.

> Explosives precursors :

The substance is not subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

Particular provisions :

No data available.

15.2. Chemical safety assessment

No data available.

>SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the substance and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H411 Toxic to aquatic life with long lasting effects.

> Abbreviations and acronyms :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.

REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.

ATE : Acute Toxicity Estimate

BW : Body Weight

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).

GHS09 : Environment

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.

|> Modification compared to the previous version