



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

REACH: 01-2120042867-48

Product name : RHUBOFLOR 978891

Product code : W18072.

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.

Skin sensitisation, Category 1 (Skin Sens. 1, H317).

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 :



GHS07



GHS09

Signal Word :

WARNING

Product identifiers :

REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)]
UNDECANE AND (1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)]
UNDECANE AND (1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3-OXATRICYCLO[6.2.1.0(2,7)]
UNDECANE AND (1RS,2SR
EC 200-412-2 2H-1-BENZOPYRAN-6-OL,
3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-, [2R-[2R*(4R*,8R*)]]-

Hazard statements :

H317

May cause an allergic skin reaction.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statements - Prevention :

P272

Contaminated work clothing should not be allowed out of the workplace.

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - Response :

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P333 + P313

IF skin irritation or rash occurs: Get medical advice/attention.

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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	%
REACH: 01-2120042867-48 REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OX ATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OX ATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3- OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR	GHS09, GHS07 Wng Skin Sens. 1B, H317 Aquatic Chronic 2, H411		99-100
CAS: 59-02-9 EC: 200-412-2 2H-1-BENZOPYRAN-6-OL, 3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8 [12-TRIMETHYLTRIDECYL)-, [2R-[2R*(4R*,8R*)]]-	GHS07 Wng Skin Sens. 1B, H317		0.1-0.5

Specific concentration limits:

Identification	Specific concentration limits	ATE
REACH: 01-2120042867-48 REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OX ATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OX ATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3- OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR		oral: ATE = 5000 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 splashes or contact with skin :**

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

In the event of an allergic reaction, seek medical attention.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.

Seek medical attention immediately, 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 non first aid worker

Avoid any contact with the skin and eyes.

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.

Individuals with a history of skin sensitisation should not, under any circumstance, handle this substance.

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.

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

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 to prevent skin contact.

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 (OECD 102)

Freezing point

Freezing point / Freezing range : Not stated.

Boiling point or initial boiling point and boiling range

Boiling point/boiling range : = 257 °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 : Not specified.

Decomposition temperature

Decomposition point/decomposition range : Not specified.

pH

pH : Not relevant.

pH (aqueous solution) : Not stated.

Kinematic viscosity

Viscosity : Not stated.

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Solubility

Water solubility : Insoluble.
Fat solubility : Not stated.

Partition coefficient n-octanol/water (log value)

Partition coefficient: n-octanol/water : Log Kow = 4.45

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

May cause an allergic reaction by skin contact.

11.1.1. Substances

Acute toxicity :

REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND
(1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND
(1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3-OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR

Oral route : LD50 = 5000 mg/kg bodyweight/day
Species : Rat

Dermal route : LD50 > 5000 mg/kg bodyweight/day
Species : Rabbit

> **Germ cell mutagenicity :**

REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND
(1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND
(1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3-OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR

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Ames test (in vitro) :

Negative.

11.2. Information on other hazards

> Endocrine disrupting properties

The substance has not been evaluated as an endocrine disruptor with effects on human health.

>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

> 12.1.1. Substances

REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3-OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR

Algae toxicity :

ECr50 = 15 mg/l

Species : Pseudokirchnerella subcapitata

Duration of exposure : 72 h

12.2. Persistence and degradability

> 12.2.1. Substances

2H-1-BENZOPYRAN-6-OL, 3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-, [2R-[2R*(4R*,8R*)]]-(CAS: 59-02-9)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3-OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR

Biodegradability :

Non-rapidly degradable.

12.3. Bioaccumulative potential

12.3.1. Substances

REACTION MASS OF (1RS,2RS,7SR,8RS,9E)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2RS,7SR,8RS,9Z)-9-ETHYLIDENE-3-OXATRICYCLO [6.2.1.0(2,7)] UNDECANE AND (1RS,2SR,7SR,8SR,10E)-10-ETHYLIDENE-3-OXATRICYCLO[6.2.1.0(2,7)] UNDECANE AND (1RS,2SR

Octanol/water partition coefficient :

log K_{ow} = 4.45

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

> 12.6. Endocrine disrupting properties

The substance has not been evaluated as an endocrine disruptor with environmental effects.

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 2024 [65]).

14.1. UN number or ID number

3082

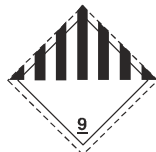
14.2. UN proper shipping name

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

(reaction mass of (1rs,2rs,7sr,8rs,9e)-9-ethylidene-3-oxatricyclo [6.2.1.0(2,7)] undecane and (1rs,2rs,7sr,8rs,9z)-9-ethylidene-3-oxatricyclo [6.2.1.0(2,7)] undecane and (1rs,2sr,7sr,8sr,10e)-10-ethylidene-3-oxatricyclo[6.2.1.0(2,7)] undecane and (1rs,2sr)

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):(reaction mass of (1rs,2rs,7sr,8rs,9e)-9-ethylidene-3-oxatricyclo [6.2.1.0(2,7)] undecane and (1rs,2rs,7sr,8rs,9z)-9-ethylidene-3-oxatricyclo [6.2.1.0(2,7)] undecane and (1rs,2sr,7sr,8sr,10e)-10-ethylidene-3-oxatricyclo[6.2.1.0(2,7)] undecane and (1rs,2sr)

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:

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 :

H317 May cause an allergic skin reaction.

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.

ECr50 : The effective concentration of substance that causes 50% reduction in growth rate.

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

ATE : Acute Toxicity Estimate

BW : Body Weight

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).

GHS07 : Exclamation mark

GHS09 : Environment

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.

> Modification compared to the previous version