

SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)



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

1.1. Product identifier

Product name : POTENCIADOR DE OCTANOS / MELHORADOR DE OCTANAGEM
Product code : 46314

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

Additive

1.3. Details of the supplier of the safety data sheet

Registered company name : MOTUL
Address : 119, Boulevard Felix Faure. 93300 AUBERVILLIERS CEDEX FRANCE
Telephone : 33.1.48.11.70.00. Fax: 33.1.48.33.28.79. Telex: .
Email : motul_hse@motul.fr

1.4. Emergency telephone number : +44 (0) 1235 239 670.

Association/Organisation : ORFILA.

Other emergency numbers

BRAZIL : +55 11 3197 5891 / COLOMBIA : +57 1 508 7337 / ARGENTINA : +54 11 5984 3690 / CHILE : +562 2582 9336
Ireland : +353 1 8092566
UNITED STATES: 001 866 928 0789 / CANADA: 001 800 579 7421 / MEXICO : +52 55 5004 8763 / MIDDLE EAST - AFRICA : +44 1235 239671
24 hours a day, 7 days a week

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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

Repeated exposure may cause skin dryness or cracking (EUH066).
Eye irritation, Category 2 (Eye Irrit. 2, H319).
Aspiration hazard, Category 1 (Asp. Tox. 1, H304).
Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).
This mixture 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

GHS08

GHS09

Signal Word :

DANGER

Product identifiers :

EC 926-141-6 HYDROCARBONS, C11-C14, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS
EC 918-811-1 HYDROCARBONS, C10, AROMATICS, <1% NAPHTHALENE
EC 919-284-0 SOLVENT NAPHTHA (PETROLEUM), HEAVY AROM.

Hazard statements :

H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements - General :

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

Precautionary statements - Prevention :

P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 Precautionary statements - Response :
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P331 Do NOT induce vomiting.
 P337 + P313 If eye irritation persists: Get medical advice/attention.
 P391 Collect spillage.
 Precautionary statements - Storage :
 P405 Store locked up.
 Precautionary statements - Disposal :
 P501 Dispose of contents / container according to prefectural ordinances.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) $\geq 0.1\%$ published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>
 The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS**3.2. Mixtures****Composition :**

Identification	(EC) 1272/2008	Note	%
CAS: 64742-47-8 EC: 926-141-6 REACH: 01-2119456620-43 HYDROCARBONS, C11-C14, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS	GHS08 Dgr Asp. Tox. 1, H304 EUH:066		50 \leq x % < 100
CAS: 64742-94-5 EC: 918-811-1 REACH: 01-2119463583-34 HYDROCARBONS, C10, AROMATICS, <1% NAPHTHALENE	GHS09, GHS07, GHS08 Dgr Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411		2.5 \leq x % < 10
CAS: 64742-94-5 EC: 919-284-0 REACH: 01-2119463588-24 SOLVENT NAPHTHA (PETROLEUM), HEAVY AROM.	GHS09, GHS07, GHS08 Dgr Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411 EUH:066		2.5 \leq x % < 10
CAS: 64742-94-5 EC: 926-273-4 REACH: 01-2119451151-53 KEROSENE - UNSPECIFIED, SOLVENT NAPHTHA (PETROLEUM), HEAVY AROM.	GHS09, GHS08 Dgr Asp. Tox. 1, H304 Aquatic Chronic 2, H411		2.5 \leq x % < 10
CAS: 7491-09-0 EC: 231-308-5 REACH: 01-2119919740-39 POTASSIUM 1,2-BIS(2-ETHYLHEXYLOXYCARBONYL) JETHANESULPHONATE	GHS05 Dgr Skin Irrit. 2, H315 Eye Dam. 1, H318		2.5 \leq x % < 10
CAS: 91-20-3 EC: 202-049-5 NAPHTHALENE	GHS07, GHS09, GHS08 Wng Acute Tox. 4, H302 Carc. 2, H351 Aquatic Acute 1, H400 M Acute = 1	[1] [2]	0 \leq x % < 1

	Aquatic Chronic 1, H410 M Chronic = 1		
CAS: 102-54-5 EC: 203-039-3 REACH: 01-2119978280-34 FERROCENE	GHS08, GHS07, GHS09, GHS02 Dgr Flam. Sol. 1, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 Repr. 1B, H360FD STOT RE 2, H373 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 10	[1] [2]	0 <= x % < 1

(Full text of H-phrases: see section 16)

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

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 exposure by inhalation :**

Remove the victim to fresh air. If the symptoms persist, call a physician.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

Wash immediately and abundantly with water, including under the eyelids.

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.

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.

Immediately remove all soiled clothing.

Wash immediately and abundantly with soap and water.

In the event of swallowing :

Do not give the patient anything orally.

Seek medical attention, showing the label.

If swallowed accidentally, do not allow to drink, do not induce vomiting and transfer to hospital immediately by ambulance. Show the label to the doctor.

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**Suitable methods of extinction**

Dry agent, foam, carbon dioxide.

Unsuitable methods of extinction

High volume water jet

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.

Spilled product may make surfaces slippery.

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 mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

To be translated (XML)

No special precaution apart from the observance of hygiene rules

Fire prevention :

Never inhale this mixture.

Prevent access by unauthorised personnel.

Take precautionary measures against static discharges by bonding and grounding equipment.

No smoking.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid skin and eye contact with this mixture.

Ensure good ventilation at the workplace

Prohibited equipment and procedures :

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

Do not breathe fumes, vapour, spray.

7.2. Conditions for safe storage, including any incompatibilities

Store between 5°C and 40°C in a dry, well ventilated place.

Only use hydrocarbon-resistant containers, joints and pipes.

Storage

Keep out of reach of children.

Keep away from food and drink, including those for animals.

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

Occupational exposure limits :

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
-----	-------	--------	-----------	--------------	------------

91-20-3	10 ppm	15 ppm		Skin; A4		
102-54-5	10 mg/m3					

- Germany - AGW (BAuA - TRGS 900, 08/08/2019) :

CAS	VME :	VME :	Excess	Notes
91-20-3		0.4 ppm 2 mg/m ³		4(I)

- France (INRS - ED984 / 2019-1487) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
91-20-3	10	50	-	-	C3	-
102-54-5	-	10	-	-	-	-

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, if possible with extractor fans at work posts and appropriate general extraction.
Personnel shall wear regularly laundered overalls.

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 with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- 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.

Type of gloves recommended :

Glove thickness:	0.38 mm
Break-through time:	> 480 mn

Recommended properties :

- Impervious gloves in accordance with standard EN ISO 374-2

- 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.

- Respiratory protection

Breathing apparatus only when aerosol or spray are formed.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.
------------------	---------------

Color:	Amber
--------	-------

Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	179 °C.
Flash Point :	72.00 °C.
Explosive properties, lower explosivity limit (%) :	0.6
Explosive properties, upper explosivity limit (%) :	7
Vapour pressure (50°C) :	Not relevant.
Density :	< 1
Water solubility :	Insoluble.
Viscosity:	v < 7 mm ² /s (40°C)

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

This mixture 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

Keep away from heat and from sources of ignition

Take precautionary measures against static discharges.

10.5. Incompatible materials

Strong oxidants

Acids

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 toxicological effects**

Repeated or prolonged contact with the mixture may cause removal of natural oil from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

11.1.1. Substances**Acute toxicity :**

FERROCENE (CAS: 102-54-5)

Oral route :

LD50 = 1350

Species : Rat

OCDE Ligne directrice 401 (Toxicité aiguë par voie orale)

Dermal route :

LD50 > 3000

OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

Inhalation route (Vapours) :

LC50 11 mg/l

Duration of exposure : 4 h

NAPHTHALENE (CAS: 91-20-3)

Oral route :

LD50 = 500 mg/kg

HYDROCARBONS, C11-C14, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS (CAS: 64742-47-8)

Oral route :

LD50 > 5000 mg/kg

Species : Rat

OCDE Ligne directrice 401 (Toxicité aiguë par voie orale)

Dermal route : LD50 > 5000 mg/kg
Species : Rat
OCDE Ligne directrice 402 (Toxicité aiguë par voie cutanée)

11.1.2. Mixture

Skin corrosion/skin irritation :

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non allergic contact dermatitis and absorption through the skin.

Serious damage to eyes/eye irritation :

Mild eye irritation

Aspiration hazard :

May be fatal if swallowed and enters airways.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

"Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons."

May cause lung damage if swallowed

Monograph(s) from the IARC (International Agency for Research on Cancer) :

CAS 91-20-3 : IARC Group 2B : The agent is possibly carcinogenic to humans.

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

FERROCENE (CAS: 102-54-5)

Fish toxicity :

LC50 12.3 mg/l

Species : Leuciscus idus melanotus

Duration of exposure : 96 h

NOEC 1.5 mg/l

Species : Leuciscus idus melanotus

Duration of exposure : 14 jours

OCDE Ligne directrice 204 (Poisson, toxicité prolongée étude sur 14 jours)

Crustacean toxicity :

EC50 2.5 mg/l

Species : Daphnia magna

Duration of exposure : 48 h

OCDE Ligne directrice 202 (Daphnia sp., essai d'immobilisation immédiate)

NOEC = 0.0015 mg/l

Factor M = 10

Species : Daphnia magna

Duration of exposure : 21 jours

OCDE Ligne directrice 211 (Daphnia magna, essai de reproduction)

Algae toxicity :

ECr50 1.03 mg/l

Duration of exposure : 72 h

OCDE Ligne directrice 201 (Algues, Essai d'inhibition de la croissance)

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

FERROCENE (CAS: 102-54-5)

Biodegradability :

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

HYDROCARBONS, C11-C14, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS (CAS: 64742-47-8)

Biodegradability :

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

12.3. Bioaccumulative potential

12.3.1. Substances

FERROCENE (CAS: 102-54-5)

Octanol/water partition coefficient : log K_{ow} 3.7

12.4. Mobility in soil

Not very mobile in soil.

The product is insoluble in water and will spread on the surface

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Do not dispose of the product in the natural environment, effluents or surface waters.

German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 2 : Hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture 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, preferably 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 2019 - IMDG 2018 - ICAO/IATA 2020).

14.1. UN number

3082

14.2. UN proper shipping name

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

(ferrocene, hydrocarbons, c10, aromatics, <1% naphthalene)

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	E1	3	-

375 601

*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	E1
	9	-	III	Y964	30 kg G	-	-	A97 A158 A197	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):(ferrocene)

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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. 2020/217 (ATP 14)

- Container information:

Packaging to be fitted with child-resistant fastenings (see EC Regulation No. 1272/2008, Annex II, Part 3).

Containers to be fitted with a tactile warning of danger (see EC Regulation No. 1272/2008, Annex II, Part 3).

- Particular provisions :

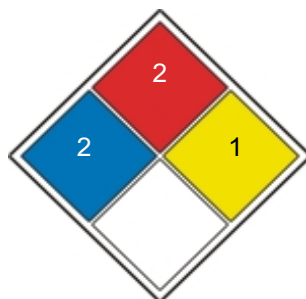
No data available.

- German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 2 : Hazardous for water.

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=2 Inflammability=2 Instability/Reactivity=1 Specific Risk=none

**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.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

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 mixture and not as a guarantee of the properties thereof.

To be translated (XML)

To be translated (XML)

Wording of the phrases mentioned in section 3 :

H228	Flammable solid.
H302	Harmful if swallowed.

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer .
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure .
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Abbreviations :

CMR: Carcinogenic, mutagenic or reprotoxic.

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

GHS08 : Health hazard

GHS09 : Environment

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.