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Safety Data Sheet

Organic Turmeric Essential Oil (Curcuma longa)

Number of pages	: 14
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According to Article 31 of Regulation (EC) n°1907/2006

1 - IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 - Product identifier

Trade name : **TURMERIC MADAGASCAR ORGANIC**
 Botanical name : **Curcuma longa L.**
 INCI name : **CURCUMA LONGA ROOT OIL**
 N°CAS TSCA : **8024-37-1**
 N°CAS EINECS : **84775-52-0**
 N°EINECS (n°EC) : **283-882-1**
 N°CoE : **163n**
 N°FEMA : **3085**

1.2 - Relevant identified uses of the substance and uses advised against

Use of product : **Fragrant and/or flavour substance**

1.3 - Details of the supplier

Name supplier : **NHR Organic Oils** Phone : **0845 310 8066**
 Address : **24 Chatham Place, Brighton, UK, BN1 3TN** Email : **info@nhrorganicoils.com**

1.4 - Emergency telephone number

Information in the event of emergency: during the normal hours of opening (9h00 to 17h00) at 33 (0) .468.741.789, if not to emergency number ORFILAat 33(0) .145.42.59.59

2 - HAZARDS IDENTIFICATION


2.1 - Classification of the substance

2.1.1 - Classification according to Regulation (EC) n°1272/2008

Hazard class and Hazard category	Hazard Statement	
Flam. Liq. 3 (FL 3)	H226	Flammable liquid and vapour.
Asp. Tox. 1 (AH 1)	H304	May be fatal if swallowed and enters airways.
Skin Sens. 1 (SS 1)	H317	May cause an allergic skin reaction.
Aquatic Chronic 3 (EH C3)	H412	Harmful to aquatic life with long lasting effects.

Classification procedure established according to the current IFRA* / IOFI* Labelling Manual and all ingredients classified according to Regulation (EC) n°1272/2008

2.1.2 - Classification according to Directive n°67/548/EEC

Xn  Harmful
 R43 May cause sensitisation by skin contact
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
 R65 Harmful: may cause lung damage if swallowed

2.1.3 - Additional information

CLP* classification system : According to Regulation (EC) n°1272/2008 and appendices, and the current version of IFRA* / IOFI* Labelling Manual.

DSD* classification system : According to Directive n°67/548/EEC, 1999/45/EC and appendices, and the current version of IFRA* / IOFI* Labelling Manual.

Information taken from specialist publications and information in the company's possession is also taken into account.

Other hazards :See the recommendations concerning the storage of classified products .

For the full text of risk phrases, hazard classes and categories, and H and EUH hazard statements, see section 16.

2.2 - Labelling elements

HAZARD PICTOGRAM(S)



GHS02



GHS07



GHS08



GHS09

SIGNAL WORD

Danger

PRECAUTIONARY STATEMENT(S)

P210	Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor, physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P501	Dispose of contents/the container in accordance with current legislation.

ADDITIONAL HAZARD INFORMATION(S)

Not regulated

2.3 - Other hazards

CMR* substances not requiring classification : **None**
See also section 11.6

Allergens (according to Cosmetic Directive 2003/15/EC) : **D-Limonene (<= 1,00%)**

3 - COMPOSITION / INFORMATION ON INGREDIENTS

3.1 - Type of product

Matter: NCS, Natural Complex Substance (100% pure and natural), Essential Oil.
Agro-alimentary Organic product certified by FR-BIO-01

3.2 - Dangerous ingredients

3.2.1 - Classification according to Regulation (EC) n°1272/2008

N°CAS : 99-83-2 N°EINECS : 202-792-5	Alpha phellandrene	<= 10,00 %
	Flam. Liq. 3, H226; Asp. Tox. 1, H304	
N°CAS : 470-82-6 N°EINECS : 207-431-5	Cineol 1,8 (Eucalyptol)	<= 6,00 %
	Flam. Liq. 3, H226	
N°CAS : 99-87-6 N°EINECS : 202-796-7	Para cymene	<= 6,00 %
	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411	
N°CAS : 495-61-4 N°EINECS : /	Beta bisabolene	<= 2,00 %
	Asp. Tox. 1, H304; Skin Irrit. 2, H315; Skin Sens. 1, H317	
N°CAS : 80-56-8 N°EINECS : 201-291-9	Alpha pinene	<= 1,00 %
	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Skin Sens. 1, H317; Aquatic Acute 1, Aquatic Chronic 1, H410	
N°CAS : 87-44-5 N°EINECS : 201-746-1	Beta caryophyllene	<= 1,00 %
	Asp. Tox. 1, H304	
N°CAS : 586-62-9 N°EINECS : 209-578-0	Terpinolene	<= 1,00 %
	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411	
N°CAS : 123-35-3 N°EINECS : 204-622-5	Myrcene	<= 0,50 %
	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 3, H412	

3.2.2 - Classification according to Directive n°67/548/EEC

N°CAS : 99-83-2 N°EINECS : 202-792-5	Alpha phellandrene	<= 10,00 %
	Xn, R65	
N°CAS : 470-82-6 N°EINECS : 207-431-5	Cineol 1,8 (Eucalyptol)	<= 6,00 %
	R10	
N°CAS : 99-87-6 N°EINECS : 202-796-7	Para cymene	<= 6,00 %
	N, Xn, R51/53, R65	
N°CAS : 495-61-4 N°EINECS : /	Beta bisabolene	<= 2,00 %
	Xn, R38, R43, R65	
N°CAS : 80-56-8 N°EINECS : 201-291-9	Alpha pinene	<= 1,00 %
	N, Xn, R43, R50/53, R65	
N°CAS : 87-44-5 N°EINECS : 201-746-1	Beta caryophyllene	<= 1,00 %
	Xn, R65	

N°CAS : 586-62-9 N°EINECS : 209-578-0	Terpinolene	<= 1,00 %
	N, Xn, R51/53, R65	
N°CAS : 123-35-3 N°EINECS : 204-622-5	Myrcene	<= 0,50 %
	Xn, R52/53, R65	

3.3 - Additional information

For the full text of risk phrases, safety phrases, hazard classes and categories, and H and EUH hazard statements, see section 16.

4 - FIRST AID MEASURES

4.1 - Description of first aid measures required

Excessive inhalation	: Remove victim to fresh air. Keep them warm and allow them to rest quietly. If harmful effects persist or worsen, call a doctor. If patient is unconscious, place them in the lateral recovery position and call a doctor immediately. Make sure the area is well ventilated.
Skin contact	: Rinse with plenty of water and change clothing if necessary. If irritation persists or if skin lesions of any kind appear, seek medical advice.
Eye contact	: Rinse immediately with plenty of running water (minimum 2 litres), opening the eyes wide under the tap. If possible, lift the upper eyelid and rinse. If irritation persists or if skin lesions of any kind appear, consult an eye specialist, taking the product with you. If you wear contact lenses, rinse your eyes immediately. The lenses will probably fall out during rinsing. If not, remove them after rinsing. Do not put them back in. If you wear soft contact lenses, throw them away even if new. Hard contact lenses may be used again after proper cleaning by an eyecare professional. In all cases, do not wear contact lenses after the accident without the advice of an eye specialist.
Ingestion	: Rinse the mouth out with water. Remove victim to fresh air. Keep them warm and allow them to rest quietly. Do not induce vomiting unless otherwise directed by a medical professional. If vomiting occurs spontaneously, keep head low down to prevent aspiration into the lungs. If harmful effects persist or worsen, call a doctor. If patient is unconscious, place them in the lateral recovery position and call a doctor immediately. Make sure the area is well ventilated.

In general, in case of doubt or if symptoms persist, ask for medical advice. Never give anything by ingestion to an unconscious person. It is recommended that those who provide first aid have a personal protective equipment. Any initiative must be taken which involves an individual risk or in the absence of appropriate training.

4.2 - Most important, acute or delayed symptoms/effects

For further details regarding symptoms and effect on health, see section 11.

4.3 - Information regarding emergency medical care or special treatment

No special treatment necessary. Symptomatic treatment required. Contact a poison specialist immediately if large quantities have been ingested or inhaled.

5 - FIRE-FIGHTING MEASURES

5.1 - Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂) or powder fire extinguisher (ABC Classes), foam extinguisher.

Unsuitable extinguishing media : Direct jet of water.

5.2 - Special hazards arising from the substance

Possible production of toxic fumes under fire.

5.3 - Advice to fire-fighters

Avoid breathing in vapour or smoke emitted. Use a mask if necessary.

Do not attempt to fight the fire with water, which tends to feed rather than smother the flames. Essential oils have the ability to float on water and this causes the fire to propagate more quickly. To put out an essential oil-based fire in its early stages, use a specific ABC dry powder fire extinguisher (or equivalent). Small fires can be smothered by covering with earth, sand or a blanket.

6 - ACCIDENTAL RELEASE MEASURES

6.1 - Personal safety precautions, protective equipment and emergency procedures

Remove all possible ignition sources. Ventilate the premises. Do not smoke.

6.2 - Environmental protection precautions

Avoid contaminating the drainage system, surface water or ground water. Dispose of any contaminated cloths, sponges, etc. in accordance with the regulatory instructions in force.

6.3 - Containment and cleaning methods and equipment

Large spills must first be absorbed with inert material which must then be swept up and disposed of in accordance with the regulations in force.

6.4 - Reference to other sections

For personal protection, see section 8.

For waste disposal, see section 13.

7 - HANDLING AND STORAGE

7.1 - Precautions for safe handling

7.1.1 - Recommendations

- a) Personal precautions** : Avoid contact, do not inhale hot vapour, do not ingest, work under an extraction hood or arm. Evacuate all unnecessary personnel not wearing protective clothing. Do not touch or step in the spilled product. Ensure adequate ventilation. If the ventilation system is inadequate, wear an appropriate respiratory protection device.
- b) Incompatibilities** : Keep in original container or other approved container made from a compatible material and keep tightly closed when not in use. Do not reuse empty containers as they can hold product residues.
- c) Environment** : Avoid discharge into the environment. Work in containment area. Use an appropriate container to avoid contaminating the surrounding environment.

7.1.2 - Hygiene rules

It is forbidden to eat, drink or smoke in areas where this product is handled, stored or used. Personnel are recommended to wash their hands after using the product and remove contaminated clothing and protective equipment before entering eating or rest areas or toilets.

7.2 - Safe storage taking all incompatibilities into account

a) How to avoid creating:

- i) explosive atmospheres** : No risk at ambient temperature; observe ATEX* requirements.
- ii) corrosive conditions** : Store in stainless steel or amber glass containers if possible
- iii) a fire hazard** : Do not heat over a naked flame; do not expose the vapours to a naked flame or any other ignition source. Do not smoke while handling the product. During incorporation, the product must be kept at a relatively low temperature. If it is necessary to raise the temperature, this must be done with caution and for as short a time as possible.
- iv) storing with incompatible substances or mixtures** : Label according to the regulations in force, refer to chemical incompatibility table (INRS* -Storage and transfer of hazardous chemicals).
- v) evaporation conditions** : Store in closed containers protected from heat and light. Opened containers must be carefully reclosed and kept upright to avoid leakage.
- vi) potential ignition sources (including electrical equipment)** : Hot surfaces, naked flames, hot gases, mechanically produced sparks and ionizing radiation should be kept to a minimum or avoided completely. Have electrical equipment and wiring checked periodically by an approved electrician. Avoid static discharge by earthing your metal appliances. Protect electrical equipment from lightning by installing a lightning arrester.

b) How to control the effects of :

- i) weather conditions** : Do not store outside.
- ii) ambient pressure** : Unknown hazard.
- iii) temperature** : Store in a temperate area; to avoid drastic differences in temperature, insulate the facility as much as possible or store in a cold room.
- iv) solar radiation** : Store in opaque containers (preferably stainless steel or amber glass)
- v) humidity** : Store in properly closed containers.
- vi) vibration** : Store in strong, properly closed containers.

c) How to preserve the integrity of the substance using :

- i) stabilizers : Store under a nitrogen blanket if possible.
- ii) antioxidants : An antioxidant may be added; see regulations in force.

d) Other points :

- i) ventilation requirements : See regulations in force. Good overall ventilation should be sufficient to limit the operator's exposure to molecules suspended in the air.
- ii) the specific design of storage rooms and tanks : See regulations in force.
- iii) maximum storable quantities : See regulations in force.
- iv) packaging compatibility : Avoid PVC.

7.3 - Specific end use(s)

Comply with the regulations and product data sheet. No specific recommendations. Apply the above handling guidelines.

8 - EXPOSURE CONTROL - PERSONAL PROTECTION**8.1 - Control parameters****8.1.1 - Occupational exposure limits (INRS*, ND2098, Directive 91/322/EC and 2000/39/EC)**

Not regulated. No specific exposure limits for this product.

8.1.2 - Biological limit values (database of chemicals GESTIS: www.dguv.de)

Not regulated. No biological limit values established for this product.

8.1.3 - Recommended monitoring procedures

If this product contains ingredients involving exposure limits, it may be necessary to carry out regular tests on the atmosphere in the work area as well as on people and other living organisms, to determine the effectiveness of the ventilation, or other checks, or assess the need to use respirators. It is important to refer to European standard EN 689 which gives the methods for assessing exposure to chemical agents by inhalation and national general policy documents relating to the methods for determining dangerous substances.

8.1.4 - DNEL* (section 1.4 appendix I) / PNEC* (section 3.3 appendix I)

A chemical safety report (CSR) is not required according to the regulations. DNEL* and PNEC* are therefore not applicable to this product.

8.1.5 - Risk management measures according to used control banding approach (ICCT*)

If necessary refer to the website: www. ilo.org

Task	Hazard band	Scale of use	Ability to become airborne	Control approach	Control Guidance Sheets
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

8.2 - Exposure control**8.2.1 - Appropriate technical control**

Maintain concentration levels in the air below the occupational exposure limits defined in the standards.

Utilize localized extraction equipment.

Make use of mechanical handling equipment to reduce human contact with the products.

8.2.2 - Personal protection measures

- a) Eye and face protection** : Protective glasses or goggles should be worn.
- b) Skin protection:** : Waterproof gloves that are resistant to essential oils and comply with an approved standard should be worn (nitrile rubber or polyvinyl alcohol (PVA)).
- c) Respiratory protection:** : Not generally necessary if the area is well ventilated (unless otherwise indicated).
- d) Heat exposure hazards** : Exposure to a heat flux from a fire or explosion can cause burns of varying degrees, depending on the distance from the heat source. It is essential to wear appropriate protective equipment as well as an autonomous respiratory protection device.

8.2.3 - Exposure control related to environmental protection

Comply with local environmental protection laws.

9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 - Information on physical and chemical properties

	Value	Methods
a) Appearance	Liquid	internal
b) Color	Pale to dark yellow	internal
c) Odour	Fresh, spicy and woody	internal
d) pH (20 °C)	Not applicable	/
e) Melting point	Not available	/
f) Initial boiling point and boiling range	Not available	/
g) Flash point	>= +60 °C	FD ISO/TR 11018 (vacuum)
h) Evaporation rate (butyl acetate = 1)	Not available	/
i) Flammability	Not available	/
j) Upper / lower flammability	Not available	/
k) Vapor pressure at 25 °C	Not available	/
l) Density of vapor (air = 1)	Not available	/
m) Relative density at 20 °C	0,925 to 0,945	NF ISO 279
n) Solubilities		
Solubility in water	Insoluble	/
Alcohol solubility (20 °C in g/l)	Soluble	NF ISO 875
o) Partition coefficient : n-Octanol/Water (log Po/w)	Not available	/
p) Auto ignition temperature	Not available	/
q) Decomposition temperature	Not available	/
r) Viscosity	Not available	/
s) Explosive properties	Lower limit : Not available Upper limit : Not available Explosion hazards : No risk at room temperature, comply to ATEX requirements.	/
t) Combustions properties	Does not contain any substance known to be susceptible to self-ignite	/

9.2 - Other information

	Value	Methods
Refractive index at 20°C	1,505 to 1,515	NF ISO 280
Optical rotation at 20°C	-30 ° to +5 °	NF ISO 592
Main ingredients	Alpha Turmerone + Ar-Turmerone (25,00 to 48,00%) Beta Turmerone (15,00 to 38,00%) Beta sesquiphellandrene + ar curcumene (2,00 to 10,00%) Alpha phellandrene (2,00 to 10,00%)	GC*

10 - STABILITY AND REACTIVITY

10.1 - Reactivity

This product is shock-, vibration- and pressure-resistant under normal usage conditions. Exposure to light or heat may cause oxidation.

10.2 - Chemical stability

No significant change in composition over time if the storage conditions described in paragraph 7.2 are observed.

10.3 - Possibility of dangerous reactions

None to our knowledge under normal usage conditions.

10.4 - Condition to avoid

Do not heat to a high temperature. Do not expose closed containers to direct sunlight. Keep away from ignition sources.

10.5 - Incompatible materials

P.V.C.

10.6 - Dangerous product decomposition

The product does not decompose under normal usage conditions.

11 - TOXICOLOGICAL INFORMATION

Hazards assessed using the methods described in Regulation (EC) No 1272/2008 and appendices for the case of complex natural substances and / or mixtures. They are also complemented by the RIFM* monographs, INRS* and IFRA*.

11.1 - Reactivity**a) Acute toxicity**

	Effect dose	Value	Methods	Remarks
Oral ingestion	LD50 org.	Not available	Oral ingestion in rats	/
Dermal absorption	LD50 derm.	Not available	Dermal application in rabbits	/
Inhalation	LC50	N.A.	/	/

b) Skin corrosion / irritation

No significant effects or critical hazards.

c) Serious eye damage / irritation

No significant effects or critical hazards.

d) Respiratory or skin sensitisation

May cause an allergic skin reaction.

e) Germ cell mutagenicity

No significant effects or critical hazards.

f) Carcinogenicity

No significant effects or critical hazards.

g) Toxicity for reproduction

No significant effects or critical hazards.

h) STOT - single exposure

Single exposure	Specific effects	Affected organs	Remarks
Acute oral toxicity	N.A.	N.A.	/
Acute dermal toxicity	N.A.	N.A.	/
Acute inhalative toxicity	N.A.	N.A.	/

i) STOT - repeated exposure

Repeated exposure	Specific effects	Affected organs	Remarks
Sub-acute oral	N.A.	N.A.	/
Sub-acute dermal	N.A.	N.A.	/
Sub-acute inhalative	N.A.	N.A.	/
Sub-chronic oral	N.A.	N.A.	/
Sub-chronic dermal	N.A.	N.A.	/
Sub-chronic inhalative	N.A.	N.A.	/
Chronic oral	N.A.	N.A.	/
Chronic dermal	N.A.	N.A.	/
Chronic inhalative	N.A.	N.A.	/

j) Aspiration hazard

May be fatal if swallowed and enters airways.

11.2 - Information on the likely routes of exposure

No specific data.

11.3 - Symptoms related to physical, chemical and toxicological

No specific data.

11.4 - Delayed, immediate and chronic effects of short-and long-term

No specific data.

11.5 - Interactive effects

No specific data.

11.6 - Information on ingredients

CMR* : None

11.7 - Other information

This substance and/or some of its components are covered by the Code of Practice of the IFRA in effect, available on the internet website www.ifraorg.org

11.8 - Important comment

None

12 - ECOLOGICAL INFORMATION**12.1 - Toxicity****a) Danger to the aquatic environment according to Regulation (EC) n°1272/2008****Toxic to aquatic life with long lasting effects.****b) Aquatic toxicity**

Aquatic toxicity	Effect dose	Exposure time	Results	Methods
Acute fish toxicity	LC50	96h	N.A.	/
Acute daphnia toxicity	EC50	48h	Not available	Acute immobilisation test
Acute algae toxicity	IC50	72h	N.A.	/

c) Longterm-ecotoxicity

Longterm-ecotoxicity	Effect dose	Exposure time	Results	Methods
Longterm fish toxicity	LC50	N.A.	N.A.	/
Chronic daphnia toxicity	EC50	N.A.	N.A.	/

12.2 - Persistence and degradability**a) Abiotic degradation**

Half time	Evaluation	Methods	Remarks
Sea-water	N.A.	/	/
Fresh water	N.A.	/	/
Air	N.A.	/	/
Soil	N.A.	/	/

b) Biodegradation

Degradation rate (%)	Time	Evaluation	Methods	Remarks
N.A.	N.A.	N.A.	/	/
N.A.	N.A.	N.A.	/	/

12.3 - Bioaccumulative potential**a) Partition coefficient n-octanol / water (log Ko/w)**

Value	Concentration	pH	°C	Methods	Remarks
N.A.	N.A.	N.A.	N.A.	/	/
N.A.	N.A.	N.A.	N.A.	/	/

b) Bioconcentration factor (BCF)

Value	Species	Evaluation	Methods	Remarks
N.A.	N.A.	N.A.	/	/
N.A.	N.A.	N.A.	/	/

12.4 - Mobility in soil**a) Surface tension**

Value	°C	Concentration	Methods	Remarks
N.A.	N.A.	N.A.	/	/
N.A.	N.A.	N.A.	/	/

b) Adsorption / Desorption

Transport	A/D coefficient Henry constant	log Koc	Volatility rate	Methods
Soil - Water	N.A.	N.A.	N.A.	/
Water-Air	N.A.	N.A.	N.A.	/
Soil-Air	N.A.	N.A.	N.A.	/

12.5 - Results of PBT* and vPvB* assessment

To our knowledge, no such assessment has been carried out on this product to date.

12.6 - Other adverse effects

Water hazardous class (WGK*) according to Annex 2 of the German directive Hazardous Materials (No. carac.: 814; 17.05.1999 organics materials): Not available

13 - DISPOSAL CONSIDERATIONS

13.1 - Waste treatment methods

Do not discharge into drainage systems or watercourses.

Waste should be recycled or disposed of according to the legislation in force, preferably by an approved recycling or waste treatment company.

Do not pollute the soil or water; do not dispose of waste in the environment.

Empty containers completely. Do not remove labels. Use an approved waste disposal company.

13.2 - Additional information

The regulations relating to waste are codified in the French Environmental Code, according to Act No 2000-914 of 18 September 2000 relating to the legislative part of the Environmental Code. The text of Articles L. 541-1 to L. 541-50 is found in Book V (Prevention of pollution, risks and nuisances), Section IV (Waste), Chapter I (Waste disposal and materials recovery).

14 - TRANSPORT INFORMATION

Comply with international dangerous goods regulations in force.

14.1 - ADR*

Land transport ADR/RID (Ruling on transport of dangerous goods - road and train)



ADR/RID Class	: NOT REGULATED
N°UN	: NOT REGULATED
Packing group	: NOT REGULATED
Dispatch Name	: NOT REGULATED
Code Tunnel	: NOT REGULATED

14.2 - IMDG*

Maritime transport IMDG (Ruling on transport of dangerous goods)

IMDG Class	: NOT REGULATED
N°UN	: NOT REGULATED
Packing group	: NOT REGULATED
Dispatch Name	: NOT REGULATED
Marine pollutant	: No

14.3 - IATA*

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class	: NOT REGULATED
N°UN	: NOT REGULATED
Packing group	: NOT REGULATED
Dispatch Name	: NOT REGULATED

14.4 - Specific precautions for the user

Guidelines on loading goods for carriage by road:

- See Table 7.5.2 of the ADR* for mixed loading prohibitions.
- Precautions relating to foodstuffs, other consumer goods and animal feed.
- During loading operations, smoking is prohibited in and around the vehicles.

- Check that the goods are properly secured in the vehicle.
- Check that the driver has the safety regulations and mandatory equipment if the limits defined by the ADR* are exceeded.

14.5 - Carriage in bulk in accordance with Appendix II of Marpol 73/78 and the IBC Code

Not applicable

14.6 - Additional information

Customs rate code : 3301 29 41 00

Comment: The regulatory provisions given above are those in force when the data sheet was updated. However, since the regulations governing the carriage of hazardous substances are always subject to change, if the MSDS in your possession is more than 12 months old, you are advised to consult your safety adviser to ensure validity.

15 - REGULATORY INFORMATION

15.1 - Specific health, safety and environment regulations/legislation

a) Special provisions

Legislation relating to facilities classified for environmental protection purposes (ICPE) in France.

Table of occupational illnesses covered by Article R. 461-3 of the French labour code: Table No 84 -Conditions induced by liquid organic solvents used in the workplace.

b) Notes

The regulatory information given in this section is intended merely as a reminder of the main provisions that apply specifically to the product covered by the MSDS.

The original EU texts mentioned are updated and transcribed into national law.

You are recommended to refer to all local, national and international measures and provisions that might apply.

You are alerted to the possible existence of provisions other than those referred to in this document.

15.2 - Chemical safety assessment

To our knowledge, no such assessment has been carried out on this product to date.

16 - OTHER INFORMATION

a) Latest changes

The content of the MSDS is regulated by the article 31 of the Regulation (EC) n°1907/2006 (REACH). This version has been completely updated according to the Regulation (EC) n°453/2010 of 20/05/2010.

MODIFICATION(S):

1) IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

=> INCI name

3) COMPOSITION / INFORMATION ON INGREDIENTS

=> Dangerous ingredients

9) PHYSICAL AND CHEMICAL PROPERTIES

=> Relative density, Refractive index, Optical rotation, Main ingredients

b) Abbreviations

ADR/RID : Agreement on Dangerous Goods by Road / Regulations concerning the Intl Transport of Dangerous Goods by Rail

ATEX : European explosive atmospheres directive

CLP : Classification Labelling Packaging

CMR : Carcinogenic, Mutagenic, Reprotoxic

DNEL : Derived No Effect Level

DSD : Dangerous Substances Directive

IATA-DGR : International Air Transport Association - Dangerous Goods Regulations

ICCT : Ilo Chemical Control Toolkit

ICAO-TI : International Civil Aviation Organization - Technical Instructions

IFRA : International Fragrance Association

IMDG : International Maritime Dangerous Goods

INRS : Institut National de Recherche et de Sécurité

IOFI : International Organization of the Flavor Industry

GC : Gas Chromatography

PBT : Persistent Bioaccumulating Toxicants

PNEC : Predicted No Effect Concentration

RIFM : Research Institute for Fragrance Materials

STOT : Specific Target Organ Toxicity

vPvB : Very Persistent and Very Bioaccumulative substance

WGK : Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)"

c) References

This Material Safety Data Sheet is in compliance with :

- Regulations (EC) n°453/2010 of 20 May 2010 and n°1272/2008 of 16 December 2008 amending Regulation (EC) n°1907/2006
- The IFRA*/IOFI* Labelling Manual of September 23, 2010
- The Directives 67/548/EEC and 1999/45/EC
- The Guidance on the compilation of Safety Data Sheet (ECHA - Draft October 2010)

d) Methods used in the assessment of data (Article 9 of Regulation (EC) n°1272/2008)

Classification established according to the current IFRA* / IOFI* Labelling Manual and all ingredients classified according to Regulation (EC) No 1272/2008.

e) List of risk phrases, safety phrases, classes and hazard categories, hazard statements and precautionary statements important**List of risk phrases (Directive n°67/548/EEC)**

R10	: Flammable
R38	: Irritating to skin
R43	: May cause sensitisation by skin contact
R50/53	: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53	: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	: Harmful: may cause lung damage if swallowed

List of safety phrases (Directive n°67/548/EEC)

S24	: Avoid contact with skin
S37	: Wear suitable gloves
S62	: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

List of classes and categories of danger (Regulation (EC) n°1272/2008)

Flam. Liq. 3	: Flammable liquid cat. 3
Asp. Tox. 1	: Aspiration hazard cat. 1
Skin Irrit. 2	: Skin irritation cat. 2
Skin Sens. 1	: Skin sensitization cat. 1
Aquatic Acute 1, Aquatic Chronic 1	: Hazardous to aquatic environment - Acute hazard cat. 1 - Chronic hazard cat. 1
Aquatic Chronic 2	: Hazardous to aquatic environment - Chronic hazard cat. 2
Aquatic Chronic 3	: Hazardous to aquatic environment - Chronic hazard cat. 3

List of hazard (Regulation (EC) n°1272/2008)

H226	: Flammable liquid and vapour.
H304	: May be fatal if swallowed and enters airways.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

List of precautionary statements (Regulation (EC) n°1272/2008)

P210	: Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P273	: Avoid release to the environment.
P280	: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310	: IF SWALLOWED: Immediately call a POISON CENTER or doctor, physician.
P302 + P352	: IF ON SKIN: Wash with plenty of soap and water.
P501	: Dispose of contents/the container in accordance with current legislation.

f) Advice on any appropriate training

Read the safety data sheet before using the product.

This MSDS complements the sheets in use, but does not replace them. The information it contains is based on the state of our knowledge about the product concerned at the time of update. They are given in good faith.

The attention of users is also drawn to the risks, if any, where a product is used for other purposes than those for which it was designed.

In no way is a user dispensed from knowing and applying the written regulations in the use of the product.

All regulatory requirements mentioned merely intend to help the user to fulfil their obligations when using a dangerous product.

This list should not be considered exhaustive. It does not dispense the user to ensure that no other obligations lie on him because of texts other than those cited and regulating the possession and use of the product, for which he alone is responsible.

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