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

CAS: 71048-82-3
EC: 275-156-8
REACH: 01-2119535122-53

Product name : DELTA DAMASCONE TOCO

Product code : H04032.

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 : IFF (Hangzhou) Co., Ltd..

Address : Mamu Road, Xiaya town 18.311606.Jiande City (Hangzhou)..

Telephone : +8657164735488. Fax : +8657164722092.

sds@iff.com

Reconditioned and distributed by: BLH s.a.s

Address : ZAC du Pilon - 06460 SAINT VALLIER DE THIEY

Tèl : 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 : 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.

Acute oral toxicity, Category 4 (Acute Tox. 4, H302).

Skin irritation, Category 2 (Skin Irrit. 2, H315).

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

Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).

Hazardous to the aquatic environment - Chronic hazard, Category 1 (Aquatic Chronic 1, H410).

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



GHS07

Signal Word :

WARNING

Product identifiers :

EC 275-156-8	DELTA DAMASCONE
EC 246-430-4	2-BUTEN-1-ONE, 1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-, (2E)-
EC 233-466-0	2H-1-BENZOPYRAN-6-OL, 3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-
EC 245-844-2	(E)-1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXADIEN-1-YL)-2-BUTEN-1-ONE

Hazard statements :

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements - Prevention :

P261	Avoid breathing mist or vapor.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves.

Precautionary statements - Response :

P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
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: 71048-82-3 EC: 275-156-8 REACH: 01-2119535122-53 DELTA DAMASCONE	GHS07, GHS09 Wng Acute Tox. 4, H302 Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		90-100
CAS: 24720-09-0 EC: 246-430-4 2-BUTEN-1-ONE, 1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-, (2E)-	GHS07, GHS09 Wng Acute Tox. 4, H302 Skin Sens. 1B, H317 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		0.1-0.25
CAS: 10191-41-0 EC: 233-466-0 2H-1-BENZOPYRAN-6-OL, 3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8 ,12-TRIMETHYLTRIDECYL)-	GHS07 Wng Skin Sens. 1B, H317		0.1-1
CAS: 23726-93-4 EC: 245-844-2 (E)-1-(2,6,6-TRIMETHYL-1,3-CYCLOHEXAD IEN-1-YL)-2-BUTEN-1-ONE	GHS07, GHS09 Wng Skin Irrit. 2, H315 Skin Sens. 1A, H317 Acute Tox. 4, H332 Aquatic Chronic 2, H411		0.025-0.1

Specific concentration limits:

Identification	Specific concentration limits	ATE
CAS: 71048-82-3 EC: 275-156-8 REACH: 01-2119535122-53 DELTA DAMASCONE		oral: ATE = 1400 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 aera 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, administer activated medical charcoal and consult a doctor.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show 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

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO2)

Unsuitable methods of extinction

In the event of a fire, do not use :

- 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.

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.

Storage

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

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 ISO 16321.

- 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 :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- PVA (Polyvinyl alcohol)

- 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 :	Not specified.

Freezing point

Freezing point / Freezing range :	Not stated.

Boiling point or initial boiling point and boiling range

Boiling point/boiling range :	245.50° 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 :	103.00 °C.

Auto-ignition temperature

Self-ignition temperature :	280 °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 Pow: 4,20

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

Avoid :

- heat

10.5. Incompatible materials

Keep away from :

- strong acids
- alkalis
- 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

11.1.1. Substances

a) Acute toxicity :

DELTA DAMASCONE (CAS: 71048-82-3)

Oral route :	LD50 = 1400 mg/kg body weight Species : Rat OECD Guideline 401 (Acute Oral Toxicity)

Harmful if swallowed.

b) Skin corrosion/skin irritation :

May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours.

c) Serious damage to eyes/eye irritation :

No data available.

d) Respiratory or skin sensitisation :

May cause an allergic reaction by skin contact.

e) Germ cell mutagenicity :

DELTA DAMASCONE (CAS: 71048-82-3)

Ames test (in vitro) :	Negative.

f) Carcinogenicity :

No data available.

g) Reproductive toxicant :

No data available.

h) Specific target organ systemic toxicity - single exposure :

No data available.

i) Specific target organ systemic toxicity - repeated exposure :

No data available.

j) Aspiration hazard :

No data available.

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

Very 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

DELTA DAMASCONE (CAS: 71048-82-3)

Fish toxicity :	LC50 = 0.97 mg/l Factor M = 1 Species : Oryzias latipes Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
	NOEC = 0.118 mg/l Species : Pimephales promelas OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)
Crustacean toxicity :	NOEC = 0.346 mg/l Species : Daphnia magna Duration of exposure : 21 days OECD Guideline 211 (Daphnia magna Reproduction Test)
Algae toxicity :	ECr50 = 4.54 mg/l Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)
	NOEC = 0.883 mg/l Species : Pseudokirchnerella subcapitata Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)

12.2. Persistence and degradability

12.2.1. Substances

2-BUTEN-1-ONE, 1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-, (2E)- (CAS: 24720-09-0)

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

DELTA DAMASCONE (CAS: 71048-82-3)

Biodegradability :	Non-rapidly degradable.

12.3. Bioaccumulative potential

12.3.1. Substances

DELTA DAMASCONE (CAS: 71048-82-3)

Octanol/water partition coefficient :	log Koe = 4.2 OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

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 2025 - IMDG 2024 [42-24] - ICAO/IATA 2025 [66]).

14.1. UN number or ID number

3082

14.2. UN proper shipping name

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

(delta damascone)

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	274 335 375 601 650	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	274 335 375 969	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):(delta damascone)

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. 2023/707.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2024/2564. (ATP 22)

Container information:

No data available.

Particular provisions :

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.

Authorisations agreed under Title VII of Regulation (EC) No.1907/2006 (REACH):

The substance is not subject to authorisation according to Annex XIV of the REACH Regulation (EC) No 1907/2006: https://echa.europa.eu/en/authorisation-list.

Substances that deplete the ozone layer (EC Regulation No. 1005/2009, Montreal Protocol) :

The substance does not pose a risk to the ozone layer.

Persistent organic pollutants (POP) (Regulation (EU) 2019/1021):

The substance is not a persistent organic pollutant.

PIC Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (Rotterdam Convention):

The substance is not subject to the Prior Informed Consent (PIC) procedure.

Explosives precursors :

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

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 :

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
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.

Abbreviations and acronyms :

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

LC50 : The concentration of a test substance resulting in 50% lethality in a given period.

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

LQ : Limited Quantity

EQ : Excepted Quantity

EmS : Emergency Schedule

E : Packing Instruction

NOEC : The concentration with no observed effect.

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.
GHS07 : Exclamation mark
GHS09 : Environment
IATA : International Air Transport Association.
IMDG : International Maritime Dangerous Goods.
ICAO : International Civil Aviation Organisation
PBT: Persistent, bioaccumulable and toxic.
PIC: Prior Informed Consent.
POP: Persistent Organic Pollutant.
RID : Regulations concerning the International carriage of Dangerous goods by rail.
SVHC : Substances of very high concern.
AK-ertek : Permissible average concentration
WGK : Wassergefahrdungsklasse (Water Hazard Class).