## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

| | | |
|---|---|---|
| Sales No. | : | 5202703<br>FRESKOMENTHE |
| Substance name | : | 2-(1-METHYLPROPYL)CYCLOHEXANONE |
| Identifier | | |
| CAS-No. | : | 14765-30-1 |
| EC-No. | : | 238-830-2 |
| Formula | : | C10-H18-O |
| REACH Registration Number | : | 01-2120756700-57 |

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

| | | |
|---|---|---|
| Intended Use Fragrances | : | Perfumery or flavor ingredient |

### 1.3 Details of the supplier of the safety data sheet

| | | |
|---|---|---|
| Company | : | Givaudan Suisse SA<br>Chemin de la Parfumerie 5<br>CH-1214 VERNIER |
| Telephone | : | +41227809111 |
| Telefax | : | +41227809150 |
| E-mail address | : | global.sds_info@givaudan.com |
| Responsible/issuing person | | |
| Legal Entity | : | Givaudan France SAS<br>55 Voie des Bans<br>F-95102 ARGENTEUIL |

### 1.4 Emergency telephone number

| | | |
|---|---|---|
| Givaudan 24/7 call | : | +33172110003 |

Please refer to section 16 for a full list of emergency phone numbers, from Givaudan's 24/7 provider.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

| | |
|---|---|
| Skin irritation, Category 2 | H315: Causes skin irritation. |

### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



| | | | |
|---|---|---|---|
| Signal word | : | Warning | |
| Hazard statements | : | H315 | Causes skin irritation. |
| Precautionary statements | : | **Prevention:** | |
| | | P264 | Wash skin thoroughly after handling. |
| | | P280 | Wear protective gloves. |
| | | **Response:** | |
| | | P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| | | P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| | | P362 + P364 | Take off contaminated clothing and wash it before reuse. |

### 2.3 Other hazards

Hazards not Otherwise Classified. : None

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name | CAS-No.<br>EC-No.<br>REACH Registration | Concentration [Percent by weight] | M-Factor, SCL, ATE |
|---|---|---|---|

| | Number | | |
|---|---|---|---|
| 2-(1-methylpropyl)-Cyclohexanone | 14765-30-1<br>238-830-2<br>01-2120756700-57 | >= 90 - <= 100 | Acute toxicity estimate<br><br>Acute oral toxicity:2 400,00 mg/kg<br>Acute dermal toxicity:> 5 000,00 mg/kg |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : Do not leave the victim unattended.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.
If on clothes, remove clothes.
Immediately seek medical attention if chemical entered ear canal.
If skin irritation persists, call a physician.

In case of eye contact : Protect unharmed eye.
Remove contact lenses.
Flush eyes with water as a precaution.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Immediately consult Poison Control Center or physician.
Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

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

Symptoms : no data available

Risks : Causes skin irritation.

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

Treatment :

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

| | | |
|---|---|---|
| Suitable extinguishing media | : | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable extinguishing media | : | High volume water jet |

### 5.2 Special hazards arising from the substance or mixture

| | | |
|---|---|---|
| Specific hazards during firefighting | : | no data available |

### 5.3 Advice for firefighters

| | | |
|---|---|---|
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |
| Further information | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Standard procedure for chemical fires. |

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

| | | |
|---|---|---|
| Personal precautions | : | Keep people away from and upwind of spill/leak.<br>For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.<br>Material can create slippery conditions.<br>Use personal protective equipment. |

### 6.2 Environmental precautions

| | | |
|---|---|---|
| Environmental precautions | : | Prevent product from entering drains.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |

### 6.3 Methods and materials for containment and cleaning up

| | | |
|---|---|---|
| Methods for cleaning up | : | Clean contaminated floors and objects thoroughly while observing environmental regulations.<br>Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).<br>Keep in suitable, closed containers for disposal. |

### 6.4 Reference to other sections

Not applicable

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

| | | |
|---|---|---|
| Advice on safe handling | : | Do not breathe vapours/dust.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Dispose of rinse water in accordance with local and national regulations. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |
| Temperature class | : | no data available |
| Fire-fighting class | : | no data available |
| Dust explosion class | : | no data available |

### 7.2 Conditions for safe storage, including any incompatibilities

| | | |
|---|---|---|
| Requirements for storage areas and containers | : | Keep container tightly closed in a dry and well-ventilated place.<br>Electrical installations / working materials must comply with the technological safety standards. |
| Further information on storage conditions | : | Store Ambient 10-30℃ (50-85℉)<br>Dry, well ventilated, preferably full, hermetically sealed |
| Advice on common storage | : | Protect against light. |
| Storage class (TRGS 510) | : | 10 Combustible liquids |
| Other data | : | No decomposition if stored and applied as directed. |

### 7.3 Specific end use(s)

| | | |
|---|---|---|
| Specific use(s) | : | no data available |

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

| | | |
|---|---|---|
| DNEL | : | End Use: Consumer use<br>Exposure routes: Dermal<br>Potential health effects: Acute local effects<br>Value: 3,78 mg/cm2 |

DNEL : End Use: Consumer use
Exposure routes: Dermal
Potential health effects: Acute systemic effects
Value: 1,51 mg/kg bw/day

DNEL : End Use: Consumer use
Exposure routes: Dermal
Potential health effects: Long-term local effects
Value: 1,26 mg/cm2

DNEL : End Use: Consumer use
Exposure routes: Dermal
Potential health effects: Long-term systemic effects
Value: 0,5 mg/kg bw/day

DNEL : End Use: Consumer use
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 6,57 mg/m3

DNEL : End Use: Consumer use
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 2,63 mg/m3

DNEL : End Use: Consumer use
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 2,19 mg/m3

DNEL : End Use: Consumer use
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 0,88 mg/m3

DNEL : End Use: Consumer use
Exposure routes: Oral
Potential health effects: Long-term systemic effects
Value: 0,5 mg/kg bw/day

DNEL : End Use: Workers
Exposure routes: Dermal
Potential health effects: Acute local effects
Value: 7,55 mg/cm2

DNEL : End Use: Workers
Exposure routes: Dermal
Potential health effects: Acute systemic effects
Value: 3,02 mg/kg bw/day

DNEL : End Use: Workers

Exposure routes: Dermal
Potential health effects: Long-term local effects
Value: 2,52 mg/cm2

DNEL : End Use: Workers
Exposure routes: Dermal
Potential health effects: Long-term systemic effects
Value: 1,01 mg/kg bw/day

DNEL : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute local effects
Value: 26,62 mg/m3

DNEL : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Acute systemic effects
Value: 10,65 mg/m3

DNEL : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term local effects
Value: 8,87 mg/m3

DNEL : End Use: Workers
Exposure routes: Inhalation
Potential health effects: Long-term systemic effects
Value: 3,55 mg/m3

PNEC : Fresh water
Value: 0,012 mg/l

PNEC : Marine water
Value: 0,0012 mg/l

PNEC : Oral
Value: 5,03 mg/kg

PNEC : Fresh water sediment
Value: 0,521 mg/kg dry weight (d.w.)

PNEC : Marine sediment
Value: 0,0521 mg/kg dry weight (d.w.)

PNEC : Soil
Value: 0,0972 mg/kg dry weight (d.w.)

PNEC : Sewage treatment plant
Value: 10,0 mg/l

**8.2 Exposure controls**

Exposure assessment: Exposures are dependent on the product being handled, the potential for chemical release, and any resulting airborne concentrations or dermal contact. Since product handling and release scenarios vary, and no two workplaces are exactly alike, it is recommended that the potential for exposure be assessed prior to the prod-uct's use or introduction. Exposure assessments should be performed by an occupational hygienist, industrial hygienist, or other qualified occupational or environmental health professional. An exposure assessment should be conducted to determine the efficacy of any ventilation and the need for additional PPE. The PPE indicated below are recommendations for worst-case scenario exposures. An exposure assessment will identify more applicable measures to be implemented. EN and ANSI standards are mentioned in the following recommendations, consult equivalent local standards when required.
PPE is always the last resort to avoid exposure. In any case technical and organisational measures have to be explored and used prior to the selection of PPE. The PPE selection is for operators trained to work with chemicals according to good industrial hygiene and safety practice. Operators have to be trained on the use of PPE.

**8.2.1 Engineering measures**

Use engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use the product only with adequate ventilation.

**8.2.2 Personal protective equipment**

| | | |
|---|---|---|
| Eye/face protection | : | Use safety goggles tested according to EN 166/ ANSI Z87.1 or equivalent local standard. |
| Hand protection | : | Use gloves when handling substance in open systems. Inspect gloves prior to use. Train operators for proper use.If only incidental exposure is expected: (work without direct contact to substance) use gloves tested according EN 16523-1/ASTM F739 or equivalent local standard breakthrough times at least 10 minutes, tested for chemicals indicated in chapter 3 of this SDS. Change gloves frequently.<br>If direct skin contact is expected: use gloves tested according to EN 16523-1/ASTM F739 or equivalent local standard, tested for chemicals indicated in chapter 3 of this SDS. Permeation time must exceed contact time. |
| Other skin protection | : | Wear working clothes covering arms and legs. |
| Respiratory protection | : | Respiratory protection should be worn when workplace exposures exceed exposure limit requirements or guidelines. If there are no applicable exposure limits or guidelines, use an approved respirator where there is a potential for adverse effects, including but not limited to respiratory irritation or odor, |

or where indicated by the exposure assessment. Selection of air-purifying or positive-pressure supplied-air will depend on the results of the exposure assessment which includes an evaluation of the specific operations and the potential airborne concentrations. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

In case a risk analysis proved the cartridge respirator as acceptable, use type:
ABEK-P3 (EN 14387) OR Combination Multi-gas/P100 (42CFR84.193; ANSI Z88.7 or equivalent local standard) as a backup to engineering controls.

In absence of engineering controls, use self-contained breathing apparatus or full face supplied air respirators.
Use respirators and components tested and approved under appropriate government standards such as CEN (EU) or NIOSH 42 CFR 84(US).

Thermal hazards : Wear appropriate thermal protective clothing, when necessary.

Hygiene measures : Remove contaminated clothing and protective equipment before entering eating areas.
Do not eat, drink or smoke during work.
Wash hands any time after handling the product.

**8.2.3 Environmental exposure controls**

General advice : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | liquid |
| Form | : | liquid |
| Colour | : | colorless to yellow |
| Taste | : | not determined |
| Odour | : | mint-like, Fresh, Earthy, Animal-like |
| Odour Threshold | : | 39,4413 ng/l |
| Flash point | : | 87 ℃ Method: Pensky-Martens closed cup |
| Lower explosion limit | : | not determined |
| Upper explosion limit | : | not determined |
| Flammability | : | no data available |
| Particle size | : | no data available |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Auto-ignition temperature | : | 360 ℃ Method: DIN 51794 |

| | | |
|---|---|---|
| Decomposition temperature | : | no data available |
| Molecular weight | : | 154,20 g/mol |
| pH | : | no data available |
| Melting point | : | < -50 °C |
| Boiling point | : | 221 °C at 1 013 hPa |
| Vapour pressure | : | 5,52 hPa at 20 °C<br>Method: OECD Test Guideline 104 |
| Density | : | 914,35 kg/m3 at 20 °C |
| Bulk density | : | Not applicable |
| Water solubility | : | 577 mg/l at 20 °C |
| Solubility/qualitative | : | Very slightly soluble |
| Partition coefficient: n-octanol/water | : | log Pow: 3,2<br>Method: OECD Test Guideline 117 |
| Viscosity, kinematic | : | no data available |
| Relative vapour density | : | no data available |
| Surface tension | : | 50,8 mN/m Method: OECD Test Guideline 115 |
| Evaporation rate | : | no data available |
| Explosive properties | : | Not explosive |

**9.2 Other information**

Not applicable

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

No decomposition if stored and applied as directed.

**10.2 Chemical stability**

No decomposition if stored and applied as directed.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : No decomposition if stored and applied as directed.

**10.4 Conditions to avoid**

Conditions to avoid : no data available

**10.5 Incompatible materials**

Materials to avoid : Not applicable

**10.6 Hazardous decomposition products**

| | | |
|---|---|---|
| Hazardous decomposition products | : | no data available |
| Thermal decomposition | : | no data available |

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity**

Not classified due to lack of data.

**Product:**

Acute oral toxicity : Acute toxicity estimate
Dose > 2000 mg/kg
Method: Calculation method

**Components:**

**2-(1-methylpropyl)-Cyclohexanone:**

Acute oral toxicity : LD50 (Rat): 2 400,00 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5 000,00 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439
Result : Skin irritation
GLP : yes

Remarks : May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation**

Not classified due to lack of data.

**Product:**

Remarks : Vapours may cause irritation to the eyes, respiratory system and the skin.

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified due to lack of data.

**Respiratory sensitisation**

Not classified due to lack of data.

**Phototoxicity**

Phototoxicity : Phototoxicity Guinea pig
Result:negative

**Germ cell mutagenicity**

Not classified due to lack of data.

**Product:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Ames test<br>Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)<br>Result: negative<br>GLP: yes<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Test system: mouse lymphoma cells<br>Method: OECD Test Guideline 490<br>Result: negative<br>GLP: yes<br><br>Test Type: Micronucleus test<br>Test system: Human lymphocytes<br>Method: OECD Test Guideline 487<br>Result: negative<br>GLP: yes |

**Carcinogenicity**

Not classified due to lack of data.

**Reproductive toxicity**

Not classified due to lack of data.

**Product:**

| | | |
|---|---|---|
| Effects on foetal development | : | Species: Rat<br>Application Route: Oral<br>Method: OECD Test Guideline 422<br>Result: Not classified<br>GLP: yes |

**STOT - single exposure**

Not classified due to lack of data.

**STOT - repeated exposure**

Not classified due to lack of data.

**Repeated dose toxicity**

**Product:**

| | | |
|---|---|---|
| Species | : | Rat, males |
| NOAEL | : | 151 mg/kg |
| Application Route | : | Oral |
| Method | : | OECD Test Guideline 422 |
| GLP | : | yes |

**Aspiration toxicity**

Not classified due to lack of data.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

Not classified due to lack of data.

**Product:**

| | | |
|---|---|---|
| Assessment | : | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |

**Further information**

**Product:**

| | | |
|---|---|---|
| Remarks | : | no data available |

## SECTION 12: Ecological information

**12.1 Toxicity**

**Product:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Danio rerio (zebra fish)): > 12,0 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Method: OECD Test Guideline 203<br>GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 25 mg/l<br>End point: Immobilization<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202<br>GLP: yes |
| Toxicity to algae/aquatic plants | : | ErC10 (Desmodesmus subspicatus (green algae)): 9,78 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Method: OECD Test Guideline 201<br>GLP: yes<br><br>ErC50 (Desmodesmus subspicatus (green algae)): 30,6 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Method: OECD Test Guideline 201 |

GLP: yes

Toxicity to microorganisms : EC50 : > 100 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209
GLP: yes

**12.2 Persistence and degradability**

**Product:**

Biodegradability : Test Type: aerobic
Result: Readily biodegradable.
Biodegradation: 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301 F
GLP: yes

Result: Inherently biodegradable.
Biodegradation: 84 %
Exposure time: 28 d
Method: OECD Test Guideline 302 C
GLP: yes

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

**Product:**

Distribution among environmental compartments : Adsorption/Soil
log Koc: 2,6
Method: OECD Test Guideline 121

**12.5 Results of PBT and vPvB assessment**

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

**Product:**

Additional ecological information : no data available

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

Product : Send to a licensed waste management company.
Dispose of in accordance with local, state and federal regulations.
The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Do not expose containers to high temperatures such as in hot work processes.
Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

Dispose of in accordance with local regulations.

## SECTION 14: Transport information

**14.1 UN number**

N/A

**14.2 UN proper shipping name**

Not regulated as a dangerous good

**14.3 Transport hazard class(es)**

N/A

**14.4 Packing group**

N/A

**14.5 Environmental hazards**

N/A

**14.6 Special precautions for user**

**IMDG**
IMDG Code Segregation Group : None

**14.7 Maritime transport in bulk according to IMO instruments**

Not applicable for product as supplied.

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Neither banned nor restricted

REACH - List of substances subject to authorisation (Annex XIV) : Neither banned nor restricted

Major Accident Hazard Legislation : Not applicable

Water hazard class (Germany) : WGK 2 obviously hazardous to water
Code Number: 6 198

**15.2 Chemical safety assessment**

A Chemical Safety Assessment is not required for this substance.

## SECTION 16: Other information

**Full list of Emergency response numbers worldwide.**

| | Country | Phone nr | | Country | Phone nr |
|---|---|---|---|---|---|
| Europe | All Europe | +44 1235 239670 | APAC | All East/South East Asia | +65 3158 1074 |
| | France | +33 1 72 11 00 03 | | Sri Lanka | +65 3158 1195 |
| | Germany | +49 89 220 61012 | | Taiwan | +886 2 8793 3212 |
| | Spain | +34 91 114 2520 | | Japan | 0120 015 230 |
| | Italy | 800 699 792 | | Indonesia | 007 803 011 0293 |
| | Netherlands | +31 10 713 8195 | | Malaysia | +60 3 6207 4347 |

Administrative information:
Report Information: SDS_FR/EN/GHS_SDS_EU_CNTRY/46
Sales & Distribution Information: VE01/FR/CH11/01
Shipping Order Information: 36 299 596/32 763 870

| | | | | | |
|---|---|---|---|---|---|
| | Turkey | 0800 621 2139<br>+44 1235 239670 | | Thailand | 001 800 120 666 751 |
| | Norway | +47 2103 4452 | | India | +65 3158 1198<br>000 800 100 7479 |
| | Greece | +30 21 1198 3182 | | Pakistan | +65 3158 1329 |
| | Portugal | +351 30880 4750 | | Bangladesh | +65 3158 1200 |
| | Denmark | +45 8988 2286 | | Philippines | +63 2 8231 2149 |
| | Sweden | +46 8 566 42573 | | Vietnam | +84 28 4458 2388 |
| | Poland | +48 22 307 3690 | | Korea | +65 3158 1285 |
| | Czech replublic | +420 228 882 830 | | South Korea | +82 2 3479 8401 |
| | Finland | +358 9 7479 0199 | | Australia | +61 2 8014 4558 |
| Middle East/Africa | All Middle East/Africa | +44 1235 239671 | | New Zealand | +64 9 929 1483 |
| | Bahrain and Middle East | +44 1235 239671 | | China | +86 532 8388 9090 |
| | Africa/South Africa | +27 21 300 2732 | LATAM | Mexico | +52 55 5004 8763 |
| NOAM | USA and Canada | +1 866 928 0789 | | Brazil | +55 11 3197 5891 |
| | USA and Canada | +1 215 207 0061 | | Chile | +56 2 2582 9336 |
| | USA and Canada | +1 202 464 2554 | | Colombia | +57 1 508 7337 |
| Global | Global | +44 1865 407333 | | Argentina | +54 11 5984 3690 |

Administrative information:
Report Information: SDS_FR/EN/GHS_SDS_EU_CNTRY/46
Sales & Distribution Information: VE01/FR/CH11/01
Shipping Order Information: 36 299 596/32 763 870

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GB EH40 - Great Britain Environmental Hygiene; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; NOM-010-STPS - Official Mexican Standard, Ministry of Labor and Social Welfare; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Information displayed in section 3 (Composition/information on ingredients) is additional information to understand the hazards of the product and ensure safe handling, storage and transportation. This information, including CAS numbers, is not meant to be used for registration, notification or any other purposes. Any additional information and documentation needed may be provided by Givaudan.

Administrative information:
Report Information: SDS_FR/EN/GHS_SDS_EU_CNTRY/46
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