

Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: **FA1422**
Product name: **wOw flavour**

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

Intended use: **Flavour**

| Identified Uses | Industrial | Professional | Consumer |
|-------------------------|------------|--------------|----------|
| Food / Electronic smoke | ✓ | ✓ | ✓ |

1.3. Details of the supplier of the safety data sheet

Name: **FLAVOURART SRL**
 Full address: **Via Delle Industrie 26**
 District and Country: **28047 Oleggio (NO) Italia**
 Tel.: **+39 0321 960553**
 Fax: **+39 0321 204549**
 e-mail address of the competent person responsible for the Safety Data Sheet: **supporto@flavourart.it**

1.4. Emergency telephone number

For urgent inquiries refer to: **+39 0321 960553**
NHS 111

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP). However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2020/878.

Hazard classification and indication: --

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms: --

Signal words: --

Hazard statements:
EUH210 Safety data sheet available on request.
EUH208 Contains: Methyl Cinnamate
 Dihydrocoumarin
 Furaneol
 Absolute of Tonka Bean
 May produce an allergic reaction.

Precautionary statements:
P501 Dispose of contents / container in accordance with local regulations.
P102 Keep out of reach of children.

SECTION 2. Hazards identification ... / >>

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration \geq 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

| Identification | x = Conc. % | Classification (EC) 1272/2008 (CLP) |
|-------------------------------|-----------------------|-------------------------------------|
| Benzyl Alcohol | | |
| CAS | 100-51-6 | $2 \leq x < 2,1$ |
| EC | 202-859-9 | |
| INDEX | 603-057-00-5 | |
| REACH Reg. | 01-2119492630-38 | |
| Ethyl butyrate | | |
| CAS | 105-54-4 | $1,19 \leq x < 1,24$ |
| EC | 105-54-4 | |
| INDEX | | |
| REACH Reg. | 01-2120118576-54 | |
| Vanillin | | |
| CAS | 121-33-5 | $0,97 \leq x < 1,01$ |
| EC | 204-465-2 | |
| INDEX | | |
| REACH Reg. | 01-2119516040-60-XXXX | |
| Absolute of Tonka Bean | | |
| CAS | | $0,27 \leq x < 0,32$ |
| EC | | |
| INDEX | | |
| Furaneol | | |
| CAS | 3658-77-3 | $0,23 \leq x < 0,28$ |
| EC | 222-908-8 | |
| INDEX | | |
| REACH Reg. | 01-2120754473-52-XXXX | |
| Ethyl Acetate | | |
| CAS | 141-78-6 | $0,15 \leq x < 0,2$ |
| EC | 205-500-4 | |
| INDEX | 607-022-00-5 | |
| REACH Reg. | 01-2119475103-46 | |
| Dihydrocoumarin | | |
| CAS | 119-84-6 | $0,15 \leq x < 0,2$ |
| EC | 204-354-9 | |
| INDEX | | |
| REACH Reg. | 01-2120754763-47-XXXX | |
| Methyl Cinnamate | | |
| CAS | 1754-62-7 | $0,07 \leq x < 0,12$ |
| EC | 203-093-8 | |
| INDEX | | |
| REACH Reg. | 01-2119979458-16 | |
| Pentyl Acetate | | |
| CAS | 628-63-7 | $0 \leq x < 0,04$ |
| EC | 211-047-3 | |
| INDEX | | |
| REACH Reg. | Pre registered | |
| Butyl acetate | | |
| CAS | 123-86-4 | $0 \leq x < 0,04$ |
| EC | 204-658-1 | |
| INDEX | 607-025-00-1 | |
| REACH Reg. | 01-2120800352-71-XXXX | |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

INGESTION: Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany): 10

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

| | | |
|-----|----------------|---|
| DEU | Deutschland | Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56 |
| ESP | España | Límites de exposición profesional para agentes químicos en España 2021 |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS |
| ITA | Italia | Decreto Legislativo 9 Aprile 2008, n.81 |
| POL | Polska | Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy |
| TUR | Türkiye | Kimyasal Maddelerin Çalışmalarda Sağlık ve Güvenlik Önlemleri Hakkında Yönetmelik 12.08.2013 / 28733 |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Fourth Edition 2020) |
| EU | OEL EU | Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC. |

Benzyl Alcohol

Threshold Limit Value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|-----------|---------|--------|-----|------------|-----|------------------------|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 22 | 5 | 44 | 10 | |
| NDS/NDSch | POL | 240 | | | | |

Ethyl Acetate

Threshold Limit Value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|-----------|---------|--------|-----|------------|-----|------------------------|
| | | mg/m3 | ppm | mg/m3 | ppm | |
| AGW | DEU | 730 | 200 | 1460 | 400 | |
| VLA | ESP | 734 | 200 | 1460 | 400 | |
| VLEP | FRA | 734 | 200 | 1468 | 400 | |
| NDS/NDSch | POL | 734 | | 1468 | | |
| WEL | GBR | 730 | 200 | 1460 | 400 | |
| OEL | EU | 734 | 200 | 1468 | 400 | |

SECTION 8. Exposure controls/personal protection ... / >>

Butyl acetate

Threshold Limit Value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|-----------|---------|-------------------|-----|-------------------|-----|------------------------|
| | | mg/m ³ | ppm | mg/m ³ | ppm | |
| VLA | ESP | 724 | 150 | 965 | 200 | |
| VLEP | FRA | 710 | 150 | 940 | 200 | |
| NDS/NDSch | POL | 240 | | 720 | | |
| WEL | GBR | 724 | 150 | 966 | 200 | |
| OEL | EU | 241 | 50 | 723 | 150 | |

Pentyl Acetate

Threshold Limit Value

| Type | Country | TWA/8h | | STEL/15min | | Remarks / Observations |
|-----------|---------|-------------------|-----|-------------------|-----|------------------------|
| | | mg/m ³ | ppm | mg/m ³ | ppm | |
| AGW | DEU | 270 | 50 | 270 | 50 | |
| VLA | ESP | 270 | 50 | 540 | 100 | |
| VLEP | FRA | 270 | 50 | 540 | 100 | |
| VLEP | ITA | 270 | 50 | 540 | 100 | |
| NDS/NDSch | POL | 250 | | 500 | | |
| ESD | TUR | 270 | 50 | 540 | 100 | |
| WEL | GBR | 270 | 50 | 541 | 100 | |
| OEL | EU | 270 | 50 | 540 | 100 | |

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Properties | Value | Information |
|--------------------------------|----------------|-------------|
| Appearance | liquid | |
| Colour | colourless | |
| Odour | characteristic | |
| Melting point / freezing point | Not available | |
| Initial boiling point | Not available | |

SECTION 9. Physical and chemical properties ... / >>

| | |
|--|------------------|
| Flammability | Not available |
| Lower explosive limit | Not available |
| Upper explosive limit | Not available |
| Flash point | 84.5 °C |
| Auto-ignition temperature | Not available |
| pH | Not available |
| Kinematic viscosity | Not available |
| Solubility | soluble in water |
| Partition coefficient: n-octanol/water | Not available |
| Vapour pressure | Not available |
| Density and/or relative density | 1,0395 |
| Relative vapour density | Not available |
| Particle characteristics | Not applicable |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials

Information not available

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

SECTION 11. Toxicological information ... / >>

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - vapours) of the mixture: > 20 mg/l
 ATE (Oral) of the mixture: >2000 mg/kg
 ATE (Dermal) of the mixture: Not classified (no significant component)

Benzyl Alcohol
 LD50 (Dermal): 2000 mg/kg Rabbit
 LD50 (Oral): 1230 mg/kg Rat
 LC50 (Inhalation vapours): > 4178 mg/l/4h Rat
 STA (Inhalation vapours): 11 mg/l estimate from table 3.1.2 of Annex I of the CLP
 (figure used for calculation of the acute toxicity estimate of the mixture)

Vanillin
 LD50 (Oral): 1400 mg/kg Guinea pig

Ethyl Acetate
 LD50 (Oral): 4900 mg/kg Rabbit

Butyl acetate
 LD50 (Dermal): > 5000 mg/kg Rabbit
 LD50 (Oral): 3200 mg/kg Rabbit
 LC50 (Inhalation mists/powders): 9,6 mg/l/4h Rat

Pentyl Acetate
 LD50 (Oral): 6500 mg/kg Rat

Ethyl butyrate
 LD50 (Dermal): > 2000 mg/kg Coniglio
 LD50 (Oral): > 2000 mg/kg Ratto
 LC50 (Inhalation vapours): > 7380 mg/l/1h Ratto

Methyl Cinnamate
 LD50 (Dermal): > 5000 mg/kg Rabbit
 LD50 (Oral): 2610 mg/kg Rat

Dihydrocoumarin
 LD50 (Oral): 1460 mg/kg rat

Furaneol
 LD50 (Oral): 1608 mg/kg Rat

Absolute of Tonka Bean
 LD50 (Dermal): 1260 mg/kg rabbit
 LD50 (Oral): 1380 mg/kg rat

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

May produce an allergic reaction.

Contains:

- Methyl Cinnamate
- Dihydrocoumarin
- Furaneol
- Absolute of Tonka Bean

Respiratory sensitization

SECTION 11. Toxicological information ... / >>

Information not available

Skin sensitization

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

Information not available

Adverse effects on development of the offspring

Information not available

Effects on or via lactation

Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs

Information not available

Route of exposure

Information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

SECTION 12. Ecological information ... / >>

| | |
|-----------------------------------|----------------------------------|
| Ethyl butyrate | |
| LC50 - for Fish | > 100 mg/l/96h Brachydanio Rerio |
| EC50 - for Crustacea | 116,2 mg/l/48h Daphnia |
| EC50 - for Algae / Aquatic Plants | 100 mg/l/72h Algae |

| | |
|----------------------|--------------|
| Furaneol | |
| EC50 - for Crustacea | 6,8 mg/l/48h |

12.2. Persistence and degradability

Information not available

12.3. Bioaccumulative potential

Information not available

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
 CONTAMINATED PACKAGING
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

SECTION 14. Transport information ... / >>

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

| | |
|----------------------------|----|
| <u>Product</u> | |
| Point | 40 |
| <u>Contained substance</u> | |
| Point | 75 |

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 1: Low hazard to waters

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

| | |
|----------------------|--|
| Flam. Liq. 2 | Flammable liquid, category 2 |
| Acute Tox. 4 | Acute toxicity, category 4 |
| Skin Corr. 1B | Skin corrosion, category 1B |
| Eye Irrit. 2 | Eye irritation, category 2 |
| Skin Sens. 1 | Skin sensitization, category 1 |
| STOT SE 3 | Specific target organ toxicity - single exposure, category 3 |

SECTION 16. Other information ... / >>

| | |
|---------------|--|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H332 | Harmful if inhaled. |
| H314 | Causes severe skin burns and eye damage. |
| H319 | Causes serious eye irritation. |
| H317 | May cause an allergic skin reaction. |
| H336 | May cause drowsiness or dizziness. |
| EUH210 | Safety data sheet available on request. |

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology

SECTION 16. Other information ... / >>

- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

02 / 03.