SECTION1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product code : AMMONIUM BICARBONATE E 503ii
Trades code : 18290
Chemical Name: AMMONIUM BICARBONATE E 503ii
CAS #1: 1066-33-7
EC N. : 213-911-5
REACH N. : 01-2119486970-26-0000,-0006

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

Substance
Sectors of use:
Industrial Manufacturing (all)[SU3], Professional use[SU22]

Uses advised against
Do not use for purposes other than those listed.

1.3. Details of the supplier of the safety data sheet

FARMALABOR SRL
Via Pozzillo II Traversa a SX, 76012 Canosa di Puglia (BT)
tel. +39 0883 1975 111
fax. 800 085 708
e-mail: info@farmalabor.it

1.4. Emergency telephone number

Emergency number 112(EU)
France +33(0)145425959
Germany +49(0)613119240
Spain +34915620420
Greece 2107793777
Netherlands +31(0)302748888
Croatia +38512348342
Switzerland 145;
Latvia +37167042473

SECTION2. Hazards identification

2.1. Classification of the substance or mixture

CAS 1066-33-7 EINECS 213-911-5 REACH 01-2119486970-26-0000,-0006
2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pictograms:
GHS07

Hazard Class and Category Code(s):
Acute Tox. 4

Hazard statement Code(s):
H302 - Harmful if swallowed.

Harmful product: do not ingest.

2.1.2 Additional information:

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

Pictogram, Signal Word Code(s):
GHS07 - Warning

Hazard statement Code(s):
H302 - Harmful if swallowed.

Supplemental Hazard statement Code(s):
not applicable

Precautionary statements:
Prevention
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
Response
P301+P312 - IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell.
P330 - Rinse mouth.
Disposal
P501 - Dispose of contents/container in accordance with local/regional/international regulations.

Contains:
AMMONIUM BICARBONATE E 503ii

2.3. Other hazards

Based on the available data, no PBT or vPvB substances are present in accordance with Regulation (EC) 1907/2006, annex XIII

Based on available data, there are no substances that interfere with the Endocrine System in accordance with Regulation (EU) 2017/2100

No information on other hazards.
Aquatic toxicity assessment:
Harmful to aquatic life. Low concentrations in biological sewage treatment plant should not impair the degradation activity of activated sludge.
Harmful (acute harmfulness) to aquatic organisms. The correct input of low concentrations into biological sewage treatment plant should not impair the degradation activity of activated sludge.
Ichthyotoxicity:
LC50 (96 h) 63.4 mg/l, Oncorhynchus mykiss (acute toxicity test on fish, Flow).
Aquatic invertebrates:
EC50 (48 h) 145.6 mg/l, Daphnia magna (acute toxicity test with Daphnia, static)
Aquatic plants:
EC50 (120 h) approx. 1,900 mg/l (growth rate), Chlorella vulgaris (static)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
EC50 (18 d) 3,231 mg/l (other), Chlorella vulgaris (static)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
Microorganisms/Effects on activated sludge:
EC10 (16 h) 1,347 mg/l, Pseudomonas putida (DIN 38412 part 8, aquatic)
Chronic toxicity to fish:

EC10 (30 d) 6.3 mg/l, Lepomis macrochirus (other, Flow.)
Chronic toxicity to aquatic invertebrates:
CE10 (70 d) 3.7 mg/l, Daphnia magna (other, semi-static)
Terrestrial toxicity assessment:
No toxic effects were observed in studies on soil-dwelling organisms.
Soil-living organisms:
LC50 (14 d) 241 mg/kg, Eisenia foetida (other, artificial soil)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
terrestrial plants:
NOEC (84 d) 749 mg/l, plants (other)
The product has not been tested. Indications are derived from substances/products of similar composition or structure.
other non-terrestrial mammals:
Study scientifically not justified.

Evaluation of biodegradability and elimination (H2O):
An inorganic product, it cannot be eliminated from water by a biological purification process. It can be oxidised by microorganisms to nitrate, but can also be reduced to nitrogen.
Disposal considerations:
not applicable

Accumulation in organisms is not to be expected.

SECTION3. Composition/information on ingredients

3.1 Substances

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
AMMONIUM BICARBONATE E 503ii	100%	Acute Tox. 4, H302	ND	1066-33-7	213-911-5	01-2119486 970-26-000 0,-0006

3.2 Mixtures

Irrilevant.

SECTION4. First aid measures

4.1. Description of first aid measures

Inhalation:
Air the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated room. CALL A PHYSICIAN.
If breathing has stopped, give artificial respiration.

Direct contact with skin (of the pure product):
In case of contact with skin, wash immediately with … (to be specified by the manufacturer).

Direct contact with eyes (of the pure product):
Wash immediately and thorougly with running water for at least 10 minutes.

Ingestion:
The product is harmful and can cause irreversible damages even following a single exposure if swallowed.
Absolutely do not induce vomiting or emesis. Seek medical advice immediately.

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

IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell.

SECTION5. Firefighting measures

5.1. Extinguishing media

Advised extinguishing agents:
Water spray, CO2, foam, dry chemical, depending on the materials involved in the fire.

Extinguishing means to avoid:
Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use protection for the breathing apparatus.
Safety helmet and full protective suit.
The spray water can be used to protect the people involved in the extinction.
You may also use selfrespirator, especially when working in confined and poorly ventilated area and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...).
Keep containers cool with water spray.

SECTION6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:
Leave the area surrounding the spill or release. Do not smoke.
Wear gloves and protective clothing.

6.1.2 For emergency responders:
Wear gloves and protective clothing.
Eliminate all unguarded flames and possible sources of ignition. No smoking.
Provision of sufficient ventilation.
Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions

Contain spill.
Inform the competent authorities.
Discharge the remains in compliance with the regulations.

6.3. Methods and material for containment and cleaning up

6.3.1 For containment:
Recover the product for reuse, if possible, or the removal.

6.3.2 For cleaning up:

After wiping up, wash with water the area and materials involved.

6.3.3 Other information:
None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information.

SECTION7. Handling and storage

7.1. Precautions for safe handling

At work do not eat or drink.
Do not eat, drink or smoke when using this product.
See also paragraph 8 below.

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabeled containers.
Keep containers upright and safe by avoiding the possibility of falls or collisions.
Store in a cool place, away from sources of heat and direct exposure of sunlight.

7.3. Specific end use(s)

Professional use:
No data available.

Industrial Manufacturing (all):
Handle with extreme caution.
Store in a well ventilated place away from heat sources.

SECTION8. Exposure controls/personal protection

8.1. Control parameters

Components with limit values to be observed at the workplace
The substance mentioned develops if the regulations / instructions for storage and handling are not observed. When the product is used at elevated temperatures, the exposure limit value must be observed.
124-38-9: carbon dioxide
TWA value 9,000 mg/m3 ; 5,000 ppm (OEL (EU))
indicative
TWA-value 9,000 mg/m3 ; 5,000 ppm (OEL (IT))
7664-41-7: ammonia, anhydrous
STEL value 36 mg/m3 ; 50 ppm (OEL (EU))
indicative
TWA value 14 mg/m3 ; 20 ppm (OEL (EU))
indicative
TWA value 14 mg/m3 ; 20 ppm (OEL (IT))
STEL value 36 mg/m3 ; 50 ppm (OEL (IT))
Limit values/factors: 15 min.
No substance-specific occupational limits known.
PNEC
fresh water: 0.37 mg/l
sea water: 0.037 mg/l
occasional emission: 0.63 mg/l
Sediment (fresh water): 0.1332 mg/kg
Sediment (sea water): 0.01332 mg/kg
soil: 74.9 mg/kg
sewage treatment plant: 1347 mg/l
DNEL

operator:
Long term exposure
systemic and local effects, Inhalation: 62.5 mg/m3
operator:
Long-term exposure - systemic effects, dermal: 57 mg/kg
operator:
Short-term exposure - systemic and local effects, Inhalation: 160.7 mg/m3
consumer:
Long-term exposure - systemic and local effects, Inhalation: 13.33 mg/m3
consumer:
Short-term exposure - systemic and local effects, Inhalation: 143.91 mg/m3
consumer:
Long-term exposure - systemic effects, Dermal: 34.2 mg/kg

8.2. Exposure controls

Appropriate engineering controls:
Do not breathe in dust. At the end of the work shift cleanse the skin and apply protective cream.

Professional use:
The usual precautionary measures for handling chemicals should be observed.

Industrial Manufacturing (all):
No specific checks required

Individual protection measures:

(a) Eye/face protection
Safety glasses with side protection (cage goggles) (e.g. EN 166)

(b) Skin protection
Personal protective equipment must be chosen on the basis of exposure and the type of activity performed.

(i) Hand protection
Protective gloves suitable for chemical agents (EN ISO 374-1) also in case of prolonged direct contact (Recommendation: protection index 6, corresponding to a permeation time >480 minutes according to EN ISO 374-1): e.g. nitrile rubber (0.4 mm), chlorine rubber (0.5 mm), PVC (0.7 mm) and others.
Additional information: The information is based on our own tests, bibliographic data and information from glove manufacturers or is derived by analogy from substances of similar composition. It must be borne in mind that, due to various factors (e.g. temperature), the duration of use of a protective glove against chemicals can in practice be considerably shorter than the permeation time determined by the tests.
Due to the great variety of types, the manufacturers' instructions for use should be observed.

(ii) Other
Wear normal work clothing.

(c) Respiratory protection
In case of gas or vapour development. Filter for gases/vapours of inorganic compounds (e.g. EN 14387 Type B). Gas filter for basic compounds such as ammonia, amines (e.g. EN 14387 Type K). Protect the respiratory tract in case of dust formation. Combined filter for organic, inorganic, acidic and basic gases/vapours and toxic particles (e.g. EN 14387 Type ABEK-P3). Respiratory protection at high concentrations or in case of prolonged action: self-contained breathing apparatus

(d) Thermal hazards
Not determined.

Environmental exposure controls:
Not determined.

SECTION9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Physical state	solid, crystalline powder	
Colour	white	
Odour	similar to ammonia	
Odour threshold	not determined	
Melting point/freezing point	not determined	
Boiling point or initial boiling point and boiling range	not determined	
Flammability	not determined	
Lower and upper explosion limit	not determined	
Flash point	not determined	ASTM D92
Auto-ignition temperature	not determined	
Decomposition temperature	>30°C	
pH	7,7 (10% (m), 20°C)	
Kinematic viscosity	not determined	
Solubility	soluble in water	
Water solubility	220 g/l (20 °C)	
Partition coefficient n-octanol/water (log value)	-2,4 (25 °C; Valore del pH: 7,7)	
Vapour pressure	79 mbar (25,4 °C)- 526 mbar (50 °C)- 1.086 mbar (59,25 °C)	
Density and/or relative density	1,58 g/cm3 (20 °C)	
Relative vapour density	not determined	
Particle characteristics	not determined	

9.2. Other information

9.2.1 Information with regard to physical hazard classes

Irrilevant.

9.2.2 Other safety characteristics

Irrilevant.

SECTION10. Stability and reactivity

10.1. Reactivity

No hazardous reaction if storage and handling requirements/indications are observed.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated. Slow decomposition possible.

10.3. Possibility of hazardous reactions

Exothermic reaction. Reactions with nitratos. Reactions with nitrites. Reactions with strong bases.

10.4. Conditions to avoid

Protect from excessive heat.

10.5. Incompatible materials

Materials to avoid
nitrites, nitrates, strong bases, strong acids

10.6. Hazardous decomposition products

Hazardous decomposition products
ammonia, anhydrous, carbon dioxide

SECTION11. Toxicological information

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

ATE oral = ∞
ATE dermal = ∞
ATE inhal = ∞

(a) acute toxicity: Harmful product: do not ingest.
AMMONIUM BICARBONATE E 503ii: Moderate toxicity after single ingestion. Practically non-toxic for a single skin contact. Practically non-toxic on single inhalation. The product has not been fully tested. Statements were derived in part from products of similar structure or composition.
Experimental/calculated data
LD50 rat (oral): approx. 1,576 mg/kg (BASF test)
LC50 rat (inhalative): > 4,74 mg/l 4,5 h (other)
The product has not been tested. The indications are derived from substances/products of similar composition or structure. An aerosol has been tested.
LD50 rat (dermal): > 2,000 mg/kg (other)

The product has not been tested. The indications are derived from substances/products of similar composition or structure.
(b) skincorrosion/irritation: AMMONIUM BICARBONATE E 503ii: in vitro study: non-irritating.
AMMONIUM BICARBONATE E 503ii: Not irritating to eyes. Not irritating to skin. The product has not been fully tested. Statements were derived in part from products of similar structure or composition
(c) serious eye damage/irritation: AMMONIUM BICARBONATE E 503ii: in vitro study: no irreversible damage
(d) respiratoryorskinsensitisation: AMMONIUM BICARBONATE E 503ii: Evaluation of sensitising effect
Animal tests showed no sensitising action. The product has not been fully tested. The statements were partly derived from products of similar structure or composition The chemical composition does not suggest a sensitising effect.
Experimental/calculated data:
Guinea Pig Maximation Test: not sensitising (other)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
(e) germ cell mutagenicity: AMMONIUM BICARBONATE E 503ii: The substance did not prove mutagenic on bacteria.The substance did not prove mutagenic in a mammalian cell culture.
(f) carcinogenicity: AMMONIUM BICARBONATE E 503ii: All available information gives no indication of a possible carcinogenic effect. The product has not been tested. The indications are derived from substances/products of similar composition or structure
(g) eproductivetoxicity: based on available data, the classification criteria are not met.
(h) specific target organ toxicity (STOT) single exposure: AMMONIUM BICARBONATE E 503ii: Apart from lethal effects, no organ-specific toxicity has been shown in experimental studies.
(i) specific target organ toxicity (STOT) repeated exposure:AMMONIUM BICARBONATE E 503ii: Repeated oral administration of the substance causes no related effects. The product has not been fully tested. The claims have been derived in part from products of similar structure or composition
(j) aspiration hazard: based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available.

11.2.1. Endocrine disrupting properties

Based on available data, there are no substances that interfere with the Endocrine System in accordance with Regulation (EU) 2017/2100

SECTION12. Ecological information

12.1. Toxicity

Use according to good working practices to avoid pollution into the environment.

Aquatic toxicity assessment:
Harmful to aquatic life. Low concentrations in biological sewage treatment plant should not impair the degradation activity of activated sludge.
Harmful (acute harmfulness) to aquatic organisms. The correct input of low concentrations into biological sewage treatment plant should not impair the degradation activity of activated sludge.
Ichthyotoxicity:
LC50 (96 h) 63.4 mg/l, Oncorhynchus mykiss (acute toxicity test on fish, Flow).
Aquatic invertebrates:
EC50 (48 h) 145.6 mg/l, Daphnia magna (acute toxicity test with Daphnia, static)
Aquatic plants:
EC50 (120 h) approx. 1,900 mg/l (growth rate), Chlorella vulgaris (static)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
EC50 (18 d) 3,231 mg/l (other), Chlorella vulgaris (static)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
Microorganisms/Effects on activated sludge:
EC10 (16 h) 1,347 mg/l, Pseudomonas putida (DIN 38412 part 8, aquatic)

Chronic toxicity to fish:
EC10 (30 d) 6.3 mg/l, Lepomis macrochirus (other, Flow.)
Chronic toxicity to aquatic invertebrates:
CE10 (70 d) 3.7 mg/l, Daphnia magna (other, semi-static)
Terrestrial toxicity assessment:
No toxic effects were observed in studies on soil-dwelling organisms.
Soil-living organisms:
LC50 (14 d) 241 mg/kg, Eisenia foetida (other, artificial soil)
The product has not been tested. The indications are derived from substances/products of similar composition or structure.
terrestrial plants:
NOEC (84 d) 749 mg/l, plants (other)
The product has not been tested. Indications are derived from substances/products of similar composition or structure.
other non-terrestrial mammals:
Study scientifically not justified.

12.2. Persistence and degradability

Evaluation of biodegradability and elimination (H2O):
An inorganic product, it cannot be eliminated from water by a biological purification process. It can be oxidised by microorganisms to nitrate, but can also be reduced to nitrogen.
Disposal considerations:
not applicable

12.3. Bioaccumulative potential

Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Transport assessment between environmental departments:
Volatility: No data available. Study scientifically not justified.
Adsorption to soil: Adsorption to the solid phase of the soil cannot be predicted.

12.5. Results of PBT and vPvB assessment

The product does not meet the requirements for classification as PBT (persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Not applicable for inorganic substances

12.6. Endocrine disrupting properties

The substance is not identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 or is included in the list of substances of very high concern according to Article 59 of the REACh Regulation for having endocrine disrupting properties.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

SECTION13. Disposal considerations

13.1. Waste treatment methods

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.

Recover if possible. Send to authorized discharge plants or for incineration under controlled conditions. Operate according to local and national rules in force.

SECTION14. Transport information

14.1. UN number or ID number

Not included in the scope of application regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

14.2. UN proper shipping name

None.

14.3. Transport hazard class(es)

None.

14.4. Packing group

None.

14.5. Environmental hazards

None.

14.6. Special precautions for user

No data available.

14.7. Maritime transport in bulk according to IMO instruments

It is not intended to carry bulk.

SECTION15. Regulatory information

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

Legislative and regulatory provisions on health, safety and the environment specific to the substance or mixture
Legislative Decree 9/4/2008 n. 81
D. M. Work 26/02/2004 (Occupational exposure limits)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) 2015/830
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Restrictions relating to the product or substances contained in Annex XVII of Regulation (EC) 1907/2006 (REACH) and subsequent adjustments:
Product restrictions:

No restrictions.
Restrictions relating to the substances contained:
No restrictions.
Where applicable, refer to the following regulations:
Ministerial circulars 46 and 61 (aromatic amines).
Directive 2012/18 / EU (Seveso III)
Regulation 648/2004 / CE (Detergents).
D.L. 3/4/2006 n. 152 Environmental regulations
Dir. 2004/42 / CE (VOC Directive)
Provisions relating to EU Directive 2012/18 (Seveso III):
Seveso III category in accordance with Annex 1, part 1

Substances in the Candidate List (REACH Article 59)
Based on available data, no SVHC substances are present

15.2. Chemical safety assessment

The supplier has made an assessment of chemical safety.

SECTION16. Other information

16.1. Other information

Points modified compared to previous release: 1.1. Product identifier, 1.2. Relevant identified uses of the substance or mixture and uses advised against, 2.1. Classification of the substance or mixture, 2.2. Label elements, 2.3. Other hazards, 3.1 Substances, 4.1. Description of first aid measures, 4.3. Indication of any immediate medical attention and special treatment needed, 6.1. Personal precautions, protective equipment and emergency procedures, 7.1. Precautions for safe handling, 7.3. Specific end use(s), 8.1. Control parameters, 8.2. Exposure controls, 9.2. Other information, 10.1. Reactivity, 10.2. Chemical stability, 10.3. Possibility of hazardous reactions, 10.4. Conditions to avoid, 10.5. Incompatible materials, 10.6. Hazardous decomposition products, 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008, 12.1. Toxicity, 12.2. Persistence and degradability, 12.3. Bioaccumulative potential, 12.4. Mobility in soil, 12.5. Results of PBT and vPvB assessment, 12.6. Endocrine disrupting properties, 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Description of the hazard statements exposed to point 3.
H302 = Harmful if swallowed.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008

H302 - Harmful if swallowed. Classification procedure: Calculation method

Training for workers:
Training of workers must include contents, updates and duration based on the risk profiles assigned to the work sectors to which they belong, in accordance with the procedures set forth in Legislative Decree 81/2008.
The information contained here is based on our knowledge on the date indicated above. They refer only to the product indicated and do not constitute a guarantee of particular qualities.
The user is obliged to make sure of the suitability and completeness of this information in relation to the specific use to be made of it.
This Board cancels and replaces any previous edition.

LEGEND:
- ADR: European agreement for the transport of dangerous goods by road
- CAS NUMBER: Number of the Chemical Abstract Service
- EC50: Concentration that gives effect to 50% of the population subject to testing
- CE NUMBER: Identification number in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008

- DNEL: Derived level without effect
- EmS: Emergency Schedule
- GHS: Global harmonized system for the classification and labeling of chemical products
- IATA DGR: Regulation for the transport of dangerous goods of the International Air Transport Association
- IC50: Immobilization concentration of 50% of the population subjected to tests
- IMDG: International maritime code for the transport of dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identification number in the Annex VI of the CLP
- LC50: Lethal concentration 50%
- LD50: 50% lethal dose
- OEL: Occupational exposure level
- PBT: Persistent, bioaccumulating and toxic according to REACH
- PEC: Predictable environmental concentration
- PEL: Predictable level of exposure
- PNEC: Predictable no-effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation for the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that must not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Average weighted exposure limit
- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulative according to REACH
- WGK: Class of aquatic hazard (Germany).

GENERAL BIBLIOGRAPHY:

1. Regulation (EC) 1907/2006 of the European Parliament (REACH)
2. Regulation (EC) 1272/2008 of the European Parliament (CLP)
3. Regulation (EU) 790/2009 of the European Parliament (I Atp. CLP)
4. Regulation (EU) 2020/878 of the European Parliament
5. Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
6. Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
7. Regulation (EU) 487/2013 of the European Parliament (IV Atp. CLP)
8. Regulation (EU) 944/2013 of the European Parliament (V Atp. CLP)
9. Regulation (EU) 605/2014 of the European Parliament (VI Atp. CLP)
10. Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
11. Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA Agency Website
- Database of chemical substance SDS models - Ministry of Health and National Institute of Health