

ATB101 PHASE A

Code: ATB101

Date of issue: 20/05/2021

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Version: 2.0

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

1.1 Product identifier

Trade name of the substance/mixture

ATB101 PHASE A

Unique Formula Identifier

UFI: ETY1-D065-A00V-XQ4X

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

Laboratory analysis CE-IVD kit

Uses advised against

Only for professional users

Sectors of use

Manufacture of fine chemicals (SU9)

Scientific research and development (SU24)

Chemical Products Category

Products such as ph-regulators, flocculants, precipitants, neutralization agents (PC20)

Laboratory chemicals (PC21)

Process Categories

Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC2)

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

Chemical production where opportunity for exposure arises (PROC4)

Mixing or blending in batch processes (PROC5)

Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC9)

Use as laboratory reagent (PROC15)

Environmental Release Categories

Formulation into mixture (ERC2)

Use of intermediate (ERC6a)

1.3 Details of the supplier of the safety data sheet

COQUA LAB S.R.L.

Corso Vittorio Emanuele II, 44

10123 - Torino- (TORINO)ITALY

Tel. 011-0161875

Responsabile SDS: info@coqualab.it

1.4 Emergency telephone number

Refer to national poison centres open 24 hours a day.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification of the substance/mixture (Regulation (EC) No 1272/2008)

This MSDS is about a mixture classified as non hazardous.

2.2 Label elements

The mixture needs not be labelled since it is classified as non hazardous.

Label elements: pictogram, signal Word code(s) (Regulation (EC) No 1272/2008)

None

Label elements: hazard statement code(s) Regulation (EC) No 1272/2008)

None

Label elements: supplemental

EUH210

Label elements: precautionary statement code(s) (Regulation (EC) No 1272/2008)

None

2.3 Other hazards

Indication of Hazards

Liquid matter.

Acute and chronic effects on organs and systems: clinical symptoms in target organism

For an exact identification of the organs subject to the action of the substances/mixtures contained in the product, the identification of symptoms and a proper knowledge of the severity of damages to people's health and the environment, see the information on the individual components.

Information regarding an exact identification of the action of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

SECTION 3: Composition/information on ingredients

3.1 Substances

Data not applicable.

3.2 Mixtures

The mixture is made of the following hazardous substances/mixtures, dealt with in Annex VI to Regulation (EC) 1272/2008 and its subsequent amendments and additions, and classified on the basis of Annex I to the same Regulation (EC) 1272/2008 subsequent amendments and additions.

Formic acid...%

CAS:64-18-6 EC:200-579-1 INDEX:607-001-00-0 REACH:01-2119491174-37-XXXX

Table 3 Reg. 1272/2008: Flam. Liq. 3;H226, Skin Corr. 1A;H314, Eye Dam. 1;H318

Skin Corr. 1A; H314: C ≥ 90 %; Skin Corr. 1B; H314: 10 % ≤ C < 90 %; Skin Irrit. 2; H315: 2 % ≤ C < 10 % Eye Irrit. 2; H319: 2 % ≤ C < 10 %

Concentration: 0 - 1%

The complete text of the hazard statements is given in section 16 of this data sheet.

SECTION 4: First aid measures

4.1 Description of first aid measures

Routes of inhalation: immediate treatment

INHALATION: the material is not classified as hazardous by inhalation. In case of exposure to high concentrations in mists or vapours; move victim to a clean environment and seek medical assistance. Administer oxygen and ventilate, if necessary. Do not engage in operations that might endanger the rescuers.

Contact with skin: immediate treatment

SKIN CONTACT: the material is not classified as hazardous by skin contact. Still, it is advisable to remove contaminated clothing, wash the skin with abundant water and soap.

Contact with skin: successive treatment

Seek medical assistance if symptoms are observed.

Contact with skin: maneuvers or substances to avoid

Do not use solvents.

Contact with eyes: immediate treatment

EYE CONTACT: rinse immediately with abundant water or physiological solution, with the lid open, for at least 15 minutes.

Contact with eyes: successive treatment

Seek medical assistance if symptoms are observed.

Ingestion: immediate treatment

INGESTION: seek medical assistance for the appropriate treatment.

Ingestion: maneuvers or substances to avoid

Do not ever induce vomiting and do not administer anything by mouth if the person is unconscious or has difficulties breathing.

4.2 Most important symptoms and effects, both acute and delayed

For the exact identification of organs covered by the action of the substances / mixtures that compose the product, identification of symptoms, and the proper knowledge of the severity of damage to health or the environment, it is necessary to refer to the information given to each component in section 2.3.

4.3 Indication of any immediate medical attention and special treatment needed

Seek medical assistance if symptoms are observed.

Data on substances/mixtures in low concentrations may be absent in the MSDS. In doubt, see the information on the individual substances (see section 3 of this data sheet).

Maintain the vital functions, if necessary.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

General informations

Remove containers from fire zone, if this can be done without risk.

Confine and collect quench water for subsequent disposal.

In a fire, keep upwind to avoid smoke, fumes, vapours.

Suitable extinguishing media

Use the following extinguishing media: carbon dioxide, foams, water (better if nebulised), chemical powders or sand (for small fires).

Extinguishing media which must not used for safety reasons

None.

5.2 Special hazards arising from the substance or mixture

The vapours may cause dizziness, fainting or asphyxiation.

5.3 Advice for firefighters

Wear:

- gas mask with self-contained respirator
- full equipment, consisting of helmet with visor and neck protection, fire-proof coat and pants with bands around arms, legs and waist.

For all matters not discussed in this paragraph, see the protection equipment recommended in section 8 of this MSDS.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

The following guidelines are directed to the staff, properly trained, working in the units in which the substance is used normally and is intended to ensure, if possible without risk, the preliminary operations safety before moving away and waiting for the intervention of the emergency team.

Stop the leak, if this can be done without risk.

Move the people not in charge of the emergency intervention away from the spill zone.

Always keep upwind, if possible.

For emergency responders

The following indications are intended for expert personnel forming part of the specifically-formed emergency response team and are in addition to those provided at the point referring to non-emergency personnel; the indications regarding environmental precautions and containment and recovery procedures refer to the same personnel

Expert personnel forming part of the emergency response team, specifically trained for this purpose, must comply with the indications provided at the point referring to non-emergency personnel and with the indications regarding environmental precautions and containment and recovery procedures.

6.2 Environmental precautions

Vapours can be diluted with nebulised water.

6.3 Methods and material for containment and cleaning up

Wash the floor with water after collecting the spill.

Place the material collected into clean and labelled containers.

If necessary, reclaim the soil.

6.4 Reference to other sections

For all matters not discussed in this paragraph, see the protection equipment recommended in section 8, as well as the procedures for waste management specified in section 13 of this MSDS.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Verify the integrity of the containers before handling operations

Handle the containers with care.

When using the material outdoors, keep upwind.

Always avoid:

- skin and eye contact
- inhaling vapours and fumes

Handle in a well ventilated environment.

Where necessary and particularly in the areas of emptying or refilling, use localised exhaust systems.

Once emptied, the containers must be transferred without delay to the collection area identified while awaiting disposal or recycling.

Do not reuse empty containers before they are subjected to industrial cleaning or reconditioning operations.

Before transferring the material, make sure that the receptacles contain no residues of other substances, especially incompatible ones.

Do not smoke in work and storage areas.

Food and drinks must be consumed only in the specifically identified areas after removing contaminated clothing and protective equipment and after washing the hands. Always wash hands after manipulating the substance.

7.2 Conditions for safe storage, including any incompatibilities

Protect the containers against damaging.

Protect the container against impacts and falls.

Ventilate the storage area to ensure that vapour leaks from the containers can be diluted.

Store in a well ventilated, dry and cool environment. Keep in the refrigerator to 4° C.

Store in closed, labelled containers.

Minimise all possible leak sources by means of appropriate systems and procedures.

Keep away from food, drinks and animal feed.

Store at a safe distance from incompatible materials.

Store only in the original container.

7.3 Specific end use(s)

Recommendations on special applications must be evaluated case by case, also in relation to the composition of the commercial product containing the substance, if applicable, account duly taken of the field of activity for which a substance or mixture is intended and its technological and production cycles.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****8.1.1 Occupational Exposure Limits**

For the Professional Exposure Limits specified for the substances contained in the mixture, see the information on the individual components. The information currently available and updated is given for the constituent substances listed in section 3 of this MSDS. Substances whose exposure limits are not known are not mentioned.

The information on the Professional Exposure Limits specified for the components of the mixture is not available or not significant in relation to the hazardousness of the product.

Occupational Exposure Limits: national limit values

Refer to national occupational exposure limits values.

Occupational Exposure Limits: CE

Formic acid...%

CAS:64-18-6 EC:200-579-1 INDEX:607-001-00-0

TWA : 5 ppm 9 mg/m³

DNELFormic acid...%

CAS:64-18-6 EC:200-579-1 INDEX:607-001-00-0

Workers - Acute inhalation (acute systemic effects): 19 mg / m³Workers - long term inhalation (long-term systemic effects): 9.5 mg / m³General population - Acute inhalation (acute systemic effects): 9.5 mg / m³General population - Long term inhalation (long-term systemic effects): 3 mg / m³**PNEC**Formic acid...%

CAS:64-18-6 EC:200-579-1 INDEX:607-001-00-0

Soil: 1.5 mg/kg

Sea water: 0.2 mg/l

Fresh water: 2 mg/l

Marine sediments: 1.34 mg/kg

Fresh water sediments: 13.4 mg/kg

STP: 7.2 mg/l

Intermittent release in water: 1 mg/l

Occupational Exposure Limits: TLV ACGIHFormic acid...%

CAS:64-18-6 EC:200-579-1 INDEX:607-001-00-0

TWA : 5 ppm 10 mg/m³**Occupational Exposure Limits: MAK DFG**Formic acid...%

CAS:64-18-6 EC:200-579-1 INDEX:607-001-00-0

MAK : 5 ppm 9.5 mg/m³**8.2 Exposure controls**

In the absence of specific indications, in selecting the appropriate PPE, whether for the skin, the eyes or the airways, consider the equipment available for the class of substances and/or mixtures concerned on the basis of the properties thereof, such as solubility in water, liposolubility, corrosivity, volatility, etc.

Consider the specific utilisation conditions of the PPE selected and employed in order to assess their durability and effectiveness during the work cycle.

Informations and Generals measures: general advice

Do not eat, drink or smoke in the working environment.

Duration and frequency of the exhibition: 5 working days / week for 8 hours for 365 days / year.

Sanitary Surveillance: frequency of medical examinations

Refer to national regulations in force.

Personal protection: respiratory tract

For respiratory PPE for the substances/mixtures contained in the mixture, see the information on the individual components.

According to Reg. (EU) 2016/425

- Filter respirator.

The information on respiratory PPE for the components of the mixture is not available or not significant in relation to the hazardousness of the product.

Personal protection: skin

For skin PPE for the substances/mixtures contained in the mixture, see the information on the individual components.
According to Reg. (EU) 2016/425

Protection of the higher limbs:

- Gloves resistant against chemical products.

Protection of the lower limbs:

- Safety shoes or boots resistant against chemical products.

Body protection:

- Apron or work suit resistant against chemical products.

The information on skin PPE for the components of the mixture is not available or not significant in relation to the hazardousness of the product.

Personal protection: eye / face

For eye / face PPE for the substances/mixtures contained in the mixture, see the information on the individual components.

According to Reg. (EU) 2016/425

- Safety glasses or goggles; do not use contact lenses.

- Visor or integral visor.

The information on eye PPE for the components of the mixture is not available or not significant in relation to the hazardousness of the product.

Thermal hazards

Wear heat resistant gloves in case of thermal hazards.

Environmental exposure controls

Refer to national regulations in force.

Atmospheric contaminants

Refer to national regulations in force.

Other informations**Duration and frequency of the exposition**

5 working days/week.

8 h (complete turn).

Exposure forecast - Formic acid (laboratory reagent)

Workers (inhalation): the highest inhalation exposure is 1.929 ppm - RCR 0.203

Estimation of the exposure carried out with ECETOC TRA model.

Consumers: not relevant.

Exposure forecast - Formic acid (formulation or repackaging)

Workers (inhalation): the highest inhalation exposure is 7.717 ppm - RCR 0.812

Estimation of the exposure carried out with ECETOC TRA model.

Consumers: not relevant.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical State	Liquid
Colour	Transparent
Odour	Data not available
Odour threshold	Data not available
Melting point/freezing point	Data not available

Boiling point/boiling range	Data not available
Flammability	Not flammable
Lower explosion limit	Data not available
Upper explosion limit	Data not available
Flash point	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
pH	Data not available
Kinematic viscosity	Data not available
Water solubility	Soluble
Fat or other organic solvents solubility	Data not available
Partition coefficient n-octanol/water (log value)	Data not available
Vapour pressure	Data not available
Density and/or relative density	Data not available
Relative vapour density (air = 1)	Data not available
Particle characteristics	Data not applicable

9.2 Other information

Explosive properties	Based on the chemical composition: not explosive
Oxidising properties	Based on the chemical composition: not oxidising
Other information with regard to physical hazard classes	Data not available
Other safety characteristics	Data not available
Evaporation rate	Data not available

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable in normal conditions.

10.2 Chemical stability

Stable in normal conditions.

10.3 Possibility of hazardous reactions

None

10.4 Conditions to avoid

None

10.5 Incompatible materials

None

10.6 Hazardous decomposition products

Data not available

SECTION 11: Toxicological information

No experimental studies have been performed on the mixture as such. For toxic effects in humans, it is therefore necessary to evaluate the individual components listed in section 3 of the MSDS. The information currently available and updated is given for the components whose specific effects are known.

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

Acute toxicity

No experimental value available or significant in relation to the hazardousness of the product for the substances/mixtures

contained in the mixture and listed in section 3 of this MSDS.

Corrosive to the respiratory system

The information on the corrosive and/or irritant power to the respiratory system of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The mixture appears to have no corrosive and/or irritant power to the airways.

Skin corrosion/irritation

The information on the corrosive and/or irritant power to skin of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The mixture appears to have no corrosive and/or irritant power to the skin.

Serious eye damage/irritation

The information on the corrosive and/or irritant power to eyes of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

The mixture appears to have no corrosive and/or irritant power to the eyes.

Respiratory sensitisation

The information on the sensitising power to the respiratory system of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

No sensitising power to the respiratory system has been demonstrated for this mixture.

Skin sensitisation

The information on the sensitising power of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

No sensitising power to skin has been demonstrated for this mixture.

STOT-single exposure

The information on the STOT-single exposure toxicity of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

It is believed that the mixture has no proven or potential STOT effects following single exposure.

STOT-repeated exposure

The information on the STOT-repeated exposure toxicity of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

It is believed that the mixture has no proven or potential STOT effects following repeated exposure.

Carcinogenicity

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the mixture.

It is believed that the mixture has no proven or potential carcinogenic effects in humans.

Germ cell mutagenicity

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the product.

It is believed that the mixture has no proven or potential mutagenic effects in humans.

Reproductive toxicity

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of the product.

It is believed that the mixture has no proven or potential reproductive toxicity effects in humans.

Aspiration hazard

Evaluations of the components of the mixture are not available or are not significant in relation to the hazardousness of

the product.

Metabolism, kinetics, mechanism of action and other information

Information on the metabolism, kinetics, mechanism of action, etc. of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

Probable exposure routes

Potential exposure routes are: inhalation, skin contact and ingestion.

11.2 Information on other hazards**Endocrine disrupting properties**

This mixture contains no substances with endocrine disrupting properties.

SECTION 12: Ecological information

No experimental studies have been performed on the mixture as such. For its toxicity to the environment it is therefore necessary to evaluate the individual components listed in section 3 of the MSDS.

12.1 Toxicity**Ecotoxicity: short-term effects**

Short-term aquatic toxicity studies on the substances/mixtures contained in the product as listed in section 3 of this MSDS are not known or not significant in relation to the hazardousness of the mixture.

Ecotoxicity: long-term effects

Long-term aquatic toxicity studies on the individual substances/mixtures contained in the mixture as listed in section 3 of this MSDS are not known or not significant in relation to the hazardousness of the product.

12.2 Persistence and degradability

For evaluations of persistence and degradability of the substances/mixtures contained in the product, see the information on the individual components.

12.3 Bioaccumulative potential

For evaluations of the potential bioaccumulation of the substances/mixtures contained in the product, see the information on the individual components.

The information on the potential bioaccumulation of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

12.4 Mobility in soil

The information on the mobility in soil of the components of the mixture is not available or not significant in relation to the hazardousness of the product.

12.5 Results of PBT and vPvB assessment

For evaluations of the PBT and vPvB assessment of the substances/mixtures contained in the product, see the information on the individual components.

This mixture contains no substances evaluated persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

12.6 Endocrine disrupting properties

This mixture contains no substances with endocrine disrupting properties.

12.7 Other adverse effects

Other adverse effects of the mixture are not known.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

To be disposed of as such, pursuant to Directive 98/2008/EC and Regulation 1357/2017/UE, the material must be classified as no hazardous waste.

Disposal considerations

Waste management modalities must be evaluated case by case, in relation to the composition of the waste material, in the light of the provisions of the applicable Community and national regulations. For handling and intervention procedures in case of accidental dispersion of the waste material, as a rule the indications given in paragraphs 6 and 7 apply; precautionary measures and specific actions must be evaluated in relation to the composition of the waste materials. The waste constituted ??from emptied containers must be placed in an area specifically identified for their collection while waiting to the disposal. The area must be paved and equipped with coverage in order to avoid the washing away by atmospheric precipitation.

It is not allowed the disposal through the discharge of waste water.

SECTION 14: Transport information**Classification**

The material is not classified as hazardous for transport purposes.

14.1 UN number or ID number	Data not available
14.2 UN proper shipping name	Data not available
14.3 Transport hazard class(es)	Data not available
Subsidiary risks	Data not available
14.4 Packing group	Data not available
Hazard identification number	Data not available
UN Special Provisions	Data not available
14.5 Environmental hazards	Data not available
14.6 Special precautions for user	Data not available
14.7 Maritime transport in bulk according to IMO instruments	Data not available
Labels	
Data not available	

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

The list of applicable regulations is indicative and non exhaustive. Users of the product must examine the specific regulations and the recommendations on the correct use of the product on a case-by-case basis.

- Regulation (EC) No 1907/2006 of 18 December 2006 (Registration, Evaluation, Authorisation and Restriction of Chemicals - REACH Regulation)
- Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) n. 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- Directive 2012/18/UE of the European Parliament and of the Council of 4 July 2012 amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives
- Regulation (EU) 1357/2014 (properties of waste which render it hazardous)
- Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents

15.2 Chemical safety assessment

Consider the chemical safety assessment, taking into account in particular the chemical and physical properties, and the circumstances of use of the substance or mixture.

SECTION 16: Other Information

This MSDS cancels and replaces any earlier versions.

The information given is based on the best knowledge available to the compiler as at the date specified in the foreword.

The information must be construed as referred solely to the product specified.

Accordingly, it may be not applicable in the case of combinations or mixtures. Users must conform to the applicable regulations and make sure the information given is up-to-date, suitable and exhaustive in relation to the product's specific intended use.

Review of the safety data sheet

Changes made in this safety data sheet, from the previous version of the same, are given below.

SECTION 1 - Unique Formula Identifier

SECTION 1 - Relevant identified uses

SECTION 1 - Relevant identified uses of the substance or mixture and uses advised against

SECTION 1 - Sectors of use

SECTION 1 - Process Categories

SECTION 1 - Environmental Release Categories

SECTION 3 - Mixtures

SECTION 7 - Conditions for safe storage, including any incompatibilities

SECTION 8 - Occupational Exposure Limits

Hazard statement code(s) and supplemental hazard statement code(s): full text

The full text of the hazard statement and supplemental hazard information used in the compilation of this MSDS is given below.

H226	Flammable liquid and vapour
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage Toxic if inhaled
EUH210	Safety data sheet available on request.

Precautionary statement code(s): full text

The full text of the precautionary statements information used in the compilation of this MSDS is given below.

None

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienist.

ADN: European Agreement concerning the international carriage of dangerous goods by inland waterways.

ADR: European Agreement concerning the international carriage of dangerous goods by road.

BEI: Biological exposure limit: it indicates the relative biological agent or its metabolite established by ACGIH.

CNS: Central nervous system.

DFG: German Commission for the study of the health hazards of chemicals in the workplace.

DNEL: Derived No-Effect Level

EC50: Median effective concentration: the effective concentration of substance that causes in the 50% of individuals a different effect from death (immobilization, stunting etc.).

IARC: International Agency for Research on Cancer.

IBC: International Bulk Chemical Code: International Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

ICAO: International Civil Aviation Organisation; it refers to Annex 18 of the Convention on International Civil Aviation "Safety of air transport of dangerous goods".

IMDG: International Maritime Dangerous Goods code for transport of dangerous goods by sea.

IMO: International Maritime Organization.

Kow: Partition coefficient between n-octanol and water. It is defined as the ratio between the equilibrium concentrations

of a dissolved substance in a system consisting of n-octanol and water. It is a measure of the lipophilicity of the substance.

LC0: The highest dose used that does not cause any death.

LD50: Median dose: single dose of substance, statistically evaluated, which is expected to cause death in 50% of treated animals.

LOAEL: Lowest Observed Adverse Effect Level

MAK: Maximum concentration of a chemical substance (as gas, vapor or particulate matter) in the workplace air which generally does not cause adverse effects on workers' health nor cause annoyance even when the person is repeatedly exposed during long periods (typically 8 hours per day, assuming an average of 40 hours of work per week).

MARPOL: Protocol on Transport in bulk according to IMO.

NOEC: No Observed Effect Concentration

NOEL: No Observed Effect Level

PNEC: Predicted no-effect concentration

PPE: Personal protective equipment

RID: European Agreement concerning the international carriage of dangerous goods by rail.

STEL: Threshold Limit Value - Short Term Exposure Limit: the concentration to which it is considered that workers can be exposed continuously for 15 minutes to up to 4 times per day with an interval of 60 minutes between exposures without suffering adverse effects.

TLV: Threshold Limit Value established by ACGIH.

TWA: Threshold Limit Value - Time-Weighted Average: the concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is considered that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effects.

Sources of key data

The sources consulted in the compilation of this MSDS are listed below:

- HSDB Hazardous Substances Data Bank. Bethesda, MD: National Library of Medicine File on-line
- ACGIH Threshold limit values for chemical substances and physical agents and biological exposure indices (TLVs and BEIs).
- Lewis, Richard J. Sr. Wiley (2000) Sax's Dangerous Properties of Industrial Materials - Interscience Publication. Tenth Edition.
- RTECS - Registry of Toxic Effects of Chemical Substances - National Library of Medicine of Bethesda (USA) by National Institute for Occupational Safety and Health (NIOSH) file on-line
- DFG (Deutsche Forschungsgemeinschaft) List of MAK and BAT Values. Maximum Concentrations and Biological Tolerance Values at the Workplace.
- GESTIS-database on hazardous substances - Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA, Institute for Occupational Safety and Health of the German Social Accident Insurance).
- United Nations. Restructured ADR. European Agreement concerning the International Carriage of Dangerous Goods by Road.
- United Nations. European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN).
- Organisation Intergouvernementale pour les Transports Internationaux Ferroviaires (OTIF). Règlement concernant le transport international ferroviaire des marchandises dangereuses (RID).
- International Civil Aviation Organization (ICAO). Technical Instructions for the Safe Transport of Dangerous Goods by Air.
- International Maritime Organization (IMO). International Maritime Dangerous Goods Code.

Safety data sheet revised by Infochem srl, on 10 May 2022, in accordance with current Community legislation (EC Regulation 1907/2006 - REACH Regulation and s.m.i.) and compiled on the basis of information taken from the SDS of the components and provided by COQUA LAB.