

[In accordance with the criteria of Regulation No 1907/2006 (REACH) and 453/2010]

Section 1: Identification of the substance/mixture and of the company

1.1. Product identifier.

NicBase Bio PDO-3

A solution of pure liquid nicotine (3 mg/ml) with 1,2-Propanediol

1.2. Significant identified application of substances or mixture and dissuaded application.

Relevant identified uses: production of mixtures (liquid component, e-liquids for electronic cigarettes).

Uses advised against: not determined

1.3. Data of the supplier of the safety data sheet.

Supplier: **CHEMNOVATIC ŁAWECKI GĘCA SPÓŁKA JAWNA**

Address: The Building of Lublin Science and Technology Park
Dobrzańskiego Street 3/BS002, 20-262 Lublin, Poland

Phone: +48 814754442

E-mail address of the person responsible for the information card: info@chemnovatic.com

1.4. Emergency telephone number.

112 (general emergency phone number)

Section 2: Hazards Identification

2.1. Classification of the substance or mixture.

Classification according to 1272/2008/EC

The product is not classified as a hazard to human health and the environment

2.2. Label elements

Hazard symbols and signal words

Not applicable.

Hazard statements

Not applicable.

Precautionary statements

P110 If medical advice is needed, have product container or label at hand.

2.3. Other hazards

No information whether the mixture meets criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

Section 3: Composition/Information on ingredients

3.1 Substances

Not applicable

3.2 Mixture

Nicotine

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Range of percentages: 0,3 %
CAS number: 54-11-5
EC number: 200-193-3
Classification by 1272/2008/WE: **Acute Tox. 1 H310, Acute Tox. 3 H301, Aquatic Chronic 2 H411**
Substance with a specific value at the Community level of the permissible concentration in the work environment.
Full text of R and H - phrases in section 16.

Section 4: First aid measures

4.1. Description of first aid measures.

Skin contact: immediately take off contaminated clothing. Wash out skin with plenty of water with soap. Consult a doctor immediately.

Eye contact: wash out with plenty of water with the eyelid hold wide open, for 10-15 min. Remove any contact lenses. Avoid strong stream of water-risk of cornea damage. Seek medical advice if necessary.

Ingestion: do not induce vomiting. Rinse mouth with water. Do not give anything to drink to an unconscious person. Consult a doctor - show the container or label.

Inhalation: remove to fresh air. Keep warm and calm. Consult a doctor, if symptoms persist.

4.2. Most important acute and delayed symptoms and effects of exposure.

Eye contact: redness, tearing, mild irritation.

Skin contact: can cause irritation, breathing problems, dizziness, cramps, nausea, vomiting. It can be absorbed through the skin. At sensitive individuals may experience an allergic reaction. Ingestion: nausea, vomiting. In extreme cases, after swallowing very large quantities of product, may appear breathing problems, dizziness, disorders of the respiratory tract.

Inhalation: following exposure to doses above permissible limits include: stimulation of breath, nausea, vomiting, headache, dizziness, diarrhea, tachycardia, increased blood pressure, sweating, salivation, burning sensation in the mouth, throat and stomach.

4.3. Indications concerning any immediate medical aid and special handling of the casualty.

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured.

Section 5: Firefighting measures

5.1. Extinguishing media.

Suitable extinguishing media: adjust the extinguishing agent to the material collected in the environment.

Unsuitable extinguishing media: water jet - risk of the propagation of the flame.

5.2. Specific hazards associated with substance or mixture.

May produce toxic fumes of carbon and nitrogen oxides, if burning. Do not inhale combustion products.

5.3. Information for the fire brigade.

Personal protection typical in case of fire. Wear suitable respiratory equipment. Cool down containers with water from safe distance to prevent bursting.

Section 6: Procedure in the case of unintended release to the environment

6.1. Personal precautions, protective equipment and emergency procedures.

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. In case of large spills, isolate the exposed area. Ensure adequate ventilation. Avoid contact with

skin and eyes. Avoid contact with spilled material. Danger of slipping, do not pass through spilled material. Wear adequate personal protective equipment. Do not allow the product to get into mouth.

6.2. Safety precautions with regard to environmental protection.

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify relevant emergency services.

6.3. Methods and materials preventing the spread of contamination and used for removal of contamination.

Soak up with liquid-binding material (e.g. sand, universal binding agent, diatomaceous earth). Collect spilled material in containers. Disposal in accordance with the local legislation. Clean the contamination place.

6.4. References to other sections.

Appropriate conduct with waste product - see section 13. Personal protective equipment - see section 8.

Section 7: Handling of substances and mixtures and storage

7.1. Precautions for safe handling.

Handle in accordance with good occupational hygiene and safety practices. Avoid contact with skin and eyes. Do not inhale vapours. Ensure adequate ventilation. Before break and after work wash carefully hands. Keep not used containers tightly closed. Do not allow the product to get into mouth.

7.2. Conditions of safe storage, together with the information related to any mutual inconsistencies.

Keep containers tightly closed in cool and well-ventilated area. Keep away from food, beverages or feed for animals. After opening seal the container and store in an upright position to prevent leakage. Avoid heat and ignition sources.

7.3. Specific final application.

No information about the applications other than those listed in subsection 1.2.

Section 8: Exposure control/personal protection equipment

8.1. Parameters concerning control.

Specification	NDS	NDSch	NDSP	DSB
nicotine [CAS 54-11-5]	0,5 mg/m ³	—	—	—

Legal Basis: Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC.

Please check any national occupational exposure limit values in your country for substance contained in this product.

8.2. Exposure controls.

Use the product in accordance with good occupational hygiene and safety practices. Ensure adequate ventilation. When handling do not eat, drink or smoke. Before break and after work carefully wash hands. In the vicinity of the work should be installed safety showers and separate washer eyewash. At the exit of the room in which you are working with toxic materials should be at least one sink with brought to the warm water - for every twenty employees.

Hand and body protection

Wear the protective gloves (long-term exposure - butyl rubber, thickness: 0,3 mm, penetration time: >480 min., short-term exposure: nitrile rubber, thickness: 0,4 mm, penetration time: >30 min.) and protective clothing.

The material that the gloves are made of must be impenetrable and resistant to the product's effects. The selection of material must be performed with consideration of breakthrough time, penetration speed and degradation. Moreover, the selection of proper gloves depends not only on the material, but also on other quality features and changes depending on the manufacturer. The producer should provide detailed information regarding the exact breakthrough time. This information should be followed.



Eye/face protection

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Wear tight safety glasses when there is a danger of possible eye contamination.

Respiratory protection

In case of normal and as intended use, no respirator is needed. If exposure limits are exceeded, apply face mask with appropriate organic vapour cartridge.

Environmental exposure controls

Do not allow the mixture to contaminate surface water/ground water.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties.

physical state:	liquid
colour:	colorless to pale yellow
odour:	characteristic
odour threshold:	not determined
pH (20°C):	not determined
melting point/freezing point:	< -20°C
initial boiling point and boiling range (993 hPa):	184°C
flash point:	> 95°C
evaporation rate	not determined
flammability (solid, gas):	not applicable
upper/lower flammability or explosive limits:	no data available
vapour pressure (25°C):	no data available
vapour density (air=1):	5,6 (for nicotine)
density (20°C):	1,033 g/cm ³
solubility(ies):	soluble
partition coefficient:	n-oktanol/water: log Po/w: 1,17 (for nicotine)
auto-ignition temperature:	product is not self-igniting
decomposition temperature:	not determined
explosive properties:	not display
oxidising properties:	not display
viscosity:	not determined

9.2. Other information.

No additional test results.

Section 10: Stability and reactivity

10.1. Reactivity.

Product reactive. See subsection 10.3-10.5.

10.2. Chemical stability.

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions.

The product can react exothermically with strong oxidizing agents.

10.4. Circumstances to be avoided.

Avoid direct sunlight and sources of ignition.



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10.5. Incompatible materials.

Strong oxidizers.

10.6. Hazardous decomposition products.

Unknown.

Section 11: Toxicological information

Toxicity components

Nicotine:

LD₅₀ (oral, rat) 50 mg/kg (Farm Chemicals Handbook. Vol. -, Pg. C219, 1991)

LD₅₀ (skin, rabbit) 50 mg/kg (Quarterly Bulletin-Association of Food and Drug Officials of the United States. Vol. 16, Pg. 3, 1952.)

LD₅₀ (skin, rat) 140 mg/kg (World Review of Pest Control. Vol. 9, Pg. 119, 1970.)

In case of exposure to doses exceeding the STEL value, the symptoms of acute poisoning by small doses of nicotine include: respiration stimulation, nausea, vomiting, headaches and vertigo, diarrhoea, tachycardia, blood pressure increase and sweating and salivation. Moreover, after large doses of nicotine symptoms such as burn in the oral cavity, throat and stomach were stated. They were followed by exhaustion, seizure, worsening of respiration, irregular heartbeat and impaired motor coordination and coma. In such case death can occur within 5 min to 4 hrs. Chronic nicotine poisoning leads to cardiovascular disorders. Vascular changes promote occurrence of angina pectoris and heart attacks, and they cause: memory disorders, slow cerebration and thoughts coordination deterioration, lack of energy and general exhaustion as well. Also alimentary canal disorders are observed.

Toxicity of the mixture

Acute toxicity

ATEmix (skin): 2083 mg/kg

ATEmix (oral): 2083 mg/kg

Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.



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Section 12: Ecological Information

12.1. Toxicity.

Toxicity components

Nicotine

Acute toxicity for fish LC₅₀: 4 mg/l/96h *Oncorhynchus mykiss*

Acute toxicity for interverbes EC₅₀: 0,24 mg/l/48h *Daphnia magna*

Toxicity of the mixture

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability.

No data available

12.3. Ability to bioaccumulate.

Do not expect to significantly bioaccumulate.

Nicotine: Log Po/w = 1,17

12.4. Mobility in the soil.

Product mobile in soil and in water. Mobility of components in the mixture depends on the hydrophilic and hydrophobic properties and conditions of biotic and abiotic soil, including its structure, climatic conditions, seasons and soil organisms.

12.5. Results of assessment of properties PBT and vPvB.

Not applicable.

12.6. Other harmful effects of the action.

This product has no influence on the global warming or the ozone layer depletion. Consider other harmful effects of the individual components of the mixture on the environment (eg impact on the growth of global warming).

Section 13: Manner of waste disposal

13.1. Waste treatment methods.

Disposal methods for the product: disposal in accordance with the local legislation. Store remainings in original containers. Do not empty into drains.

Disposal methods for used packing: reuse/recycling/liquidation of empty containers dispose in accordance with the local legislation. Do not dispose empty packing with regular household waste. Do not mix with other waste.

Legal basis: Directive 2008/98/EC, 94/62/EC.

Section 14: Transport Information

14.1 UN number

Not applicable

14.2 UN proper shipping name

Not applicable

14.3 Transport hazard class(es)

Not applicable

14.4 Packing group

Not applicable

14.5 Environmental hazards

The mixture is not classified as dangerous for the environment.

14.6 Special precautions for user

Use protective measures according to section 8

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

Section 15: Regulatory Information.

15.1. Legal regulations related to safety, health and environmental protection principles specific for the substance and mixture.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EC) No 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 (Text with EEA relevance).

Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.

Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances.

Commission Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (Text with EEA relevance).

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

15.2. Assessment of chemical safety.

There is no data concerning chemical safety assessment performed for substances contained in the mixture.

Section 16: Other Information.

Full text of R and H-phrases of Section 3 cards

R25	Very toxic.
R27	Very toxic in contact with skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H411	Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms

NDS	Exposure Limit
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NDSch	Exposure Limit Temporary
NDSP	Exposure Limit Ceiling
DSB	Limit Biological material
PBT	Persistent, Bioaccumulative and Toxic substance
vPvB	very Persistent, very Bioaccumulative substance
Acute Tox. 1, 3	Very toxic cat. 1,3
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects cat. 2

Trainings

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.

Other data

Classification was made on the basis of data on hazardous substances calculation method based on the guidelines of the Minister of Health of 10 August 2012 on the criteria and classification of chemical substances and mixtures (OJ 2012.1018) and Regulation 1272/2008/EC (CLP).

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The above information is prepared on the basis of current state of knowledge and relates to the product in the form in which it is used. Data relating to the product are presented in order to include safety requirements, and not to guarantee their particular properties.

In the event when conditions of application of the product are beyond control of the manufacturer, responsibility for safe use of the product is borne by the user.

The Employer is obligated to inform all employees who have contact with the product, about hazards and personal protection equipment specified in this material safety data sheet.

This material safety data sheet has been prepared on the basis of MSDS provided by the manufacturer and/or web databases and the binding regulations regarding hazardous substances and chemical agents.

The product is not classified as hazardous. EXPOSURE SCENARIOS are not required.