



CHEMNOVATIC

SAFETY DATA SHEET

Data of issue: 12.11.2013
Date of update: 22.08.2022
Version: 8.1/EN

[In accordance with the criteria of Regulation No 1907/2006 (REACH) as amended]

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

1.1 Product identifier

Commercial name: PureNic 99+
Chemical name: nicotine
Index number: 614-001-00-4
REACH registration number: 01-2120066934-47-0004/01-2120066934-47-0011

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

Relevant identified uses: laboratory chemicals, production of mixtures.
Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Supplier: CHEMNOVATIC Sp. z o.o. Sp. k
Address: ul. Ludwika Spiessa 9, 20-270 Lublin, POLAND
Telephone number: +48 81 475 44 42
E-mail address for a competent person responsible for msds: biuro@thetaconsulting.pl

1.4 Emergency telephone number

112

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Acute Tox. 2 H330, Acute Tox. 2 H310, Acute Tox. 2 H300, Aquatic Chronic 2 H411
Fatal if inhaled. Fatal in contact with skin. Fatal if swallowed. Toxic to aquatic life with long lasting effects.

2.2 Label elements

Hazard symbols and signal words



DANGER

Hazard statements

H330 Fatal if inhaled.
H310 Fatal in contact with skin.
H300 Fatal if swallowed.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P361 Remove/Take off immediately all contaminated clothing.
P405 Store locked up.
P501 Dispose of contents/container to container for waste.



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2.3 Other hazards

The substance does not meet the PBT or vPvB criteria according to Annex XIII of the REACH regulation. The product does not contain substances included in the list established in accordance with Article 59(1) for having endocrine disrupting properties, or substances identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (3) or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight.

Section 3: Composition/information on ingredients

3.1 Substances

nicotine

Range of percentages: min. 99,0 %

CAS number: 54-11-5

EC number: 200-193-3

Index number: 614-001-00-4

Substance with a specific value at the Community level of the permissible concentration in the work environment.

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 symptoms and effects, both acute and delayed

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 it may, 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 Indication of any immediate medical attention and special treatment needed

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: CO₂, sand, dry chemical, water spray. Extinguishing media adapt to materials in surrounding.

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

5.2 Special hazards arising from the substance or mixture

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



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5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire-endangered area without appropriate chemical-resistant clothing and self-contained breathing apparatus. Wear suitable respiratory equipment. Cool down containers with water from safe distance to prevent bursting. Advice for firefighters: Put on breathing apparatus. Wear self-contained breathing apparatus. Wear full protective suit.

Section 6: Accidental release measures

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 Environmental precautions

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. The material may be harmful to the environment when released in large quantities. Notify relevant emergency services. Dilute the spillage with much amount of water. Do not allow to enter drainage system, surface or ground water. Keep dirty washing water for appropriate disposal.

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

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

Section 7: Handling 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. Use personal protection measures.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in cool and well-ventilated area. Keep away from food, beverages or feed for animals. Once opened container should be used immediately. Avoid heat and ignition sources. Store at about 0-10 °C in a well closed containers under nitrogen/argon atmosphere, protected from light.

7.3 Specific end use(s)

Laboratory chemicals, production of mixtures.

Section 8: Exposure controls/personal protection

8.1 Control parameters

| Specification | TWA 8 hour | STEL 15 min |
|------------------------|------------|------------------------------|
| nicotine [CAS 54-11-5] | — | 0,5 mg/m ³ (skin) |

Legal Basis: Commission Directive 2006/15/EC, 2000/39/EC, 2009/161/EC, 2017/164/EU, 2019/1831/EU.

The table above shows the maximum workplace concentration values at the Community level.

Please check any national occupational exposure limit values in your country.



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8.2 Exposure controls

Appropriate engineering 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.



Personal protection

The necessity to use and selection of appropriate personal protective equipment should take into account the type of hazard posed by the product, workplace conditions and the manner of handling the product. Applied personal protective equipment must comply with the requirements of the Regulation 2016/425/EU. The employer is obliged to provide protective equipment relevant to performed activities and in accordance with all quality requirements, including its maintenance and cleaning. Any contaminated or damaged personal protective equipment must be replaced immediately.

Hand and body protection

Use type B protective gloves in accordance with ISO 374-1: 2016. 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

Depending on the exposure level, use goggles compliant with the EN166 standard or tight protective goggles or face protection.

Respiratory protection

Requirement of using a mask with an absorber and ensuring adequate ventilation: When working with the substance, work with a mask meeting the EN140 standard, equipped with an absorber that meets the EN14387 "2004 + A1: 2008 or EN14387: 2006 standard. Provide adequate ventilation.

Thermal hazards

Not applicable.

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: | from transparent to straw-colored, light brown |
| Odour | characteristic, irritant |
| Melting point/freezing point: | -79°C |
| Boiling point or initial boiling point and boiling range: | 248,8 °C |
| Flammability: | flammable product |
| Lower and upper explosion limit: | not determined |
| Flash point: | 111°C (101 325 Pa) |
| Auto-ignition temperature: | 240 °C (101 325 Pa) |
| Decomposition temperature: | not determined |
| pH: | 9,0-11,5 |
| Kinematic viscosity: | 2,7 mPa*s (25°C) 1,6 mPa*s (50°C) |



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Solubility: soluble
Partition coefficient n-octanol/water (log value): log Pow: 1,17
Vapour pressure: 0,006 kPa
Density and/or relative density: 1,01 g/cm³
Relative vapour density: 5,81 Pa (air=1)
Particle characteristics: not applicable

9.2 Other information

No additional data.

Section 10: Stability and reactivity

10.1 Reactivity

Product doesn't undergo dangerous polymerization. See also subsections 10.3-10.5.

10.2 Chemical stability

The product is stable under normal conditions.

10.3 Possibility of hazardous reactions

Dangerous reactions are not known.

10.4 Conditions to avoid

Avoid direct sunlight and sources of ignition.

10.5 Incompatible materials

Strong oxidizers.

10.6 Hazardous decomposition products

Unknown.

Section 11: Toxicological information

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

Acute toxicity

Fatal if inhaled. Fatal in contact with skin. Fatal if swallowed.

The acute toxicity of a mixture (ATEmix) was determined using the estimated acute toxicity (ATE) used for the classification of acute toxicity to human health in mixtures containing nicotine in accordance with Commission Regulation (EU) 2017/776 of 4 May 2017 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.

ATE (oral) 5 mg/kg

ATE (skin) 70 mg/kg

ATE (inhalation - mist) 0,19 mg/l

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.

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.



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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.

11.2 Information on other hazards

Endocrine disrupting properties

The product does not contain substances included in the list established in accordance with Article 59(1) for having endocrine disrupting properties, or substances identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (3) or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 % by weight.

Other information

Not applicable.

Section 12: Ecological information

12.1 Toxicity

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

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

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

12.2 Persistence and degradability

Biodegradation: 71% after 28 days (OECD 301B method)

12.3 Bioaccumulative potential

Log P_{o/w} = 1,17* (pH=12)

*J. W. Gorrod, *Determination of partition coefficients and ionisation constants of (S)(-)- nicotine and certain metabolites*, Med. Sci. Res., 20, 901-902, 1992.

12.4 Mobility in soil

Product is mobile in soil and in water.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Endocrine disrupting properties

The product does not contain components with endocrine disrupting properties.

12.7 Other adverse effects

The product does not affect global warming and ozone layer depletion. Consider other harmful effects of individual components of the mixture on the environment (e.g. endocrine disrupting potential, global warming potential).



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Section 13: Disposal considerations

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 as amended, 94/62/EC as amended.

Section 14: Transport information

14.1 UN number or ID number

ADR: UN 1654

IMDG: UN 1654

IATA: UN 1654



14.2 UN proper shipping name

ADR: NICOTINE

IMDG: NICOTINE

IATA: NICOTINE



14.3 Transport hazard class(es)

ADR: 6.1

IMDG: 6.1

IATA: 6.1

14.4 Packing group

ADR: II

IMDG: II

IATA: II

14.5 Environmental hazards

Hazardous for the environment according to the transport regulations.

14.6 Special precautions for user

Use protective measures according to section 8.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Other information

limited number of LQ: 100 ml

hazard identification number: 60

special provision: -

transport category: 2

code tunnel restriction: D / E

ADR

IMDG

Section 15: Regulatory information

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



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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 as amended.

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 as amended.

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

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

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

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.

Commission Directive 2009/161/EU of 17 December 2009 establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

Commission Directive 2017/164/EU of 31 January 2017 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU.

Regulation (EU) No 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC.

Commission Directive 2019/1831/EU of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC.

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2 Chemical safety assessment

Chemical safety assessment has not been carried out for the substance.

Section 16: Other information

Clarification of aberrations and acronyms

TWA Time Weighted Average

STEL Short-term exposure limit

Acute Tox. 2 Acute Toxicity category 2

Aquatic Chronic 2 Hazardous to the aquatic environment category 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.

Key literature references and data sources

Safety data sheet was drawn up on the basis provided by the distributor sheet, online databases (e.g. ECHA, TOXNET, COSING) as well as knowledge and experience, taking into account the current legislation.

Other data

Changes: section: 1.3

Safety Data Sheet made by: THETA CONSULTING SP. Z O. O.

The information above is based on a current available data concerning the product, but also on the experience and knowledge in this field of the producer. They are neither a quality description of the product nor a guarantee of particular features. They are to be treated as aid to safety in transport, storage and usage of the product. That does not free the user from the responsibility of improper usage of the information above and also of improper compliance with the law norms in the field.