

SAFETY DATA SHEET

[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

Trade name: **BIODUR Forest marking spray ULTRA in aerosol packaging 500 ml**

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

Relevant identified uses: Special paint for long-term marking in the forest, wood and stone.

Uses advised against: not determined.

1.3 Details of the supplier of the safety data sheet

Supplier: **LLC "NEWTON-PROMSERVICE"**
Address: App. 110 Chichibabina., 9, app. 110, Ukraine
Telephone/Fax number: +380 57 729 01 40
Importer: **BIODUR Sp. z o.o.**
Address: 31-036 Kraków, ul. Halicka 9, Poland
Telephone/Fax number: +48 123 766552
E-mail address for a competent person responsible for SDS: biuro@theta-doradztwo.pl
Information about the product: info@biodur.pl

1.4 Emergency telephone number

112

Section 2: Haz ards identific ation

2.1 Classification of the substance or mixture

Aerosol 1 H222-H229

Repeated exposure may cause skin dryness or cracking (EUH066).

This mixture does not present an environmental hazard. No know or foreseeable environmental damage under standard conditions of use.

Label elements

Hazard pictograms and signal words



DANGER

Hazardous components placed on the label

Contains: n-butyl acetate, methyl acetate, ethyl acetate

Hazard statements

H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

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Precautionary statements

P102 Keep out of reach of children.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
 P211 No smoking.
 P211 Do not spray on an open flame or other ignition source.
 P251 Do not pierce or burn, even after use.
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.
 P501 Dispose of contents/container to a container intended for selective waste collection.

Additional labelling

EUH066 Repeated exposure may cause skin dryness or cracking.
 EUH208 Contains methyl methacrylate, n-butyl methacrylate. May produce an allergic reaction.

2.2 Other hazards

Substances contained in the mixture do not meet the 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 Mixtures

CAS number: 68476-85-7 EC number: 270-704-2 Index number: 649-202-00-6 REACH registration number: A substance exempted from registration	petroleum gases, liquefied ¹ Flam. Gas 1 H220, Press. Gas H280	100 %
CAS number: 79-20-9 EC number: 201-185-2 Index number: 607-021-00-X REACH registration number:-	methyl acetate Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336	< 25%
CAS number: 141-78-6 EC number: 205-500-4 Index number: 607-022-00-5 REACH registration number: 01-2119475103-46-XXXX	ethyl acetate Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336	< 20%
CAS number: 123-86-4 EC number: 204-658-1 Index number: 607-025-00-1 REACH registration number: 01-2119485493-29-XXXX	n-butyl acetate Flam. Liq. 3 H226, STOT SE 3 H336	< 15%

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1 - classification taking into account note K (1,3-butadiene content below 0,1%)
2 - substance with occupational exposure limits defined on the European Union level Full text of each relevant H phrase is given in section 16 of

Section 4: First aid measures

SDS.

4.1 Description of first aid measures

Skin contact: take off contaminated clothes immediately. Wash contaminated skin thoroughly with a large amount of water, then rinse with a large amount of water and soap. Consult a doctor, if disturbing symptoms occur.

Eye contact: contact an ophthalmologist if irritation occurs. Protect non-irritated eye, remove contact lenses. Rinse contaminated eyes with water or physiological fluid (e.g., 0.9% saline or 5% glucose) for over a dozen minutes. Avoid strong stream of water - risk of cornea damage.

Ingestion: exposure by this route does not typically occur. If swallowed, rinse mouth with water. Do not induce vomiting! Never give anything by mouth to an unconscious person. Contact a doctor, show container or label.

Inhalation: remove the victim to fresh air. Keep warm and calm. If necessary, perform artificial respiration or give oxygen. Consult a doctor, if disturbing symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact: possible dryness or cracking of the skin with repeated exposure, degreasing, redness, frostbite when spraying the skin with a spray from a short distance, possible allergic reaction to susceptible individuals..

Eye contact: redness, burning sensation, tearing, irritation.

Inhalation: irritation of the mucous membrane of the respiratory system, possible coughing, drowsiness and dizziness.

Ingestion: due to the product's form exposure by this route are not expected. Accidental getting of the product into the mouth could be harmful.

Effects of exposure: possible damage to organs: optic nerve, central nervous system.

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. Symptomatic treatment.

Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: foam, extinguishing powder, water mist, carbon dioxide. Unsuitable extinguishing media: water jet - risk of propagation of the flame.

5.2 Special hazards arising from the substance or mixture

During combustion harmful gases consisting of carbon oxides and other unidentified products of thermal decomposition may be produced. Do not inhale combustion products, they can be dangerous for human health.

5.3 Advice for firefighters

Personal protection typical in case of fire. Do not stay in the fire zone without protective clothing resistant to chemicals and self-contained breathing apparatus. Do not let extinguishing water reach drainage system, ground and surface waters. Gas can accumulate on the surface of the ground and move along distances creating a risk of fire or explosion. In case of fire cool endangered containers with water fog from safe distance. Pressurized container - danger of unsealing and even an explosion at high temperature. Collect used extinguishing media.

Section 6: Accidental release measures

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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. Ensure that effects of the breakdown are removed only by qualified personnel. In case of large spills, isolate the exposed area. Avoid eyes and skin contamination. Ensure adequate ventilation. Prohibit smoking, using of naked flames and sparking tools. Wear personal protective equipment. Do not inhale sprayed aerosol.

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. Notify relevant emergency services.

6.3 Methods and material for containment and cleaning up

Remove the damaged packaging mechanically. Absorb the leakage with incombustible liquid-binding material (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to appropriate waste containers. Treat collected material as a waste. Clean the contaminated surface. Do not use sparking tools. Do not smoke.

6.4 Reference to other sections

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

Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Avoid eyes and skin contamination. Wear personal protective equipment. Do not inhale aerosols. Ensure adequate general and/or local ventilation. Eliminate sources of ignition - do not use open flame, do not smoke, do not use sparking tools and clothing made of materials that are susceptible to electrification; protect the tanks from heat. Do not spray over open flame or incandescent material. Prevent the accumulation of electrostatic charges. Containers which were opened should be resealed and stored upright to avoid leaking of the product. Unused containers keep closed tightly. Use as intended.

7.2 Conditions for safe storage, including any incompatibilities

Store only in a dry and cool place at temperatures below 50 °C. Keep away from sources of ignition and heat. Do not smoke, use open flame and sparking devices in a warehouse. Avoid direct sunlight. Do not pierce or burn empty containers. Keep away from food, foodstuffs and animal feed.

7.3 Specific end use(s)

No information about other uses than those mentioned in subsection 1.2.

Section 8: Exposure controls / personal protection

8.1 Control parameters

Specification	TWA 8 hour	STEL 15 min	Notation
butanone* [CAS 78-93-3]	600 mg/m ³	900 mg/m ³	-

Legal Basis: Commission Directive 2006/15/EC, 2000/39/EC, 2009/161/EC, 2017/164/EU. Please check any national occupational exposure limit values in your country.

Recommended control procedures

Procedures concerning the control over the dangerous components concentrations in the air and control over the air quality in the workplace - if they are available and justified for the position - in accordance with the European Standards, with the conditions within the exposure place and a proper test methodology adapted to the working conditions.

8.2 Exposure controls Industrial hygiene

Observe good occupational hygiene and safety practices. Avoid eyes and skin contact. Take off BIODUR Forest marking spray ULTRA in aerosol packaging 500 ml

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contaminated clothes immediately. Do not eat, drink or smoke when using the product. Before break and after work wash hands carefully. Ensure adequate ventilation. Provide general and / or local ventilation in the workplace in order to maintain concentrations of pollutants in the air below the established limit values. If during work processes there is a risk of clothing fire on the employee - no more than 20 m in a horizontal line from the stations where these processes are performed, emergency showers (safety showers) for washing the whole body and separate showers (showers) for eye washing should be installed.

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, the conditions at the workplace and the manner in which the product is handled. Personal protective equipment must meet requirements of regulation 2016/425 and standards. Employer is obliged to ensure equipment adequate to activities carried out, with quality demands, cleaning and maintenance. Any contaminated or damaged personal protective equipment must be replaced immediately.

Hand protection

Use product-resistant protective gloves with a performance level of 2 or greater. Type and the thickness of the material selected individually at the workplace.

When using protective gloves during work with chemical products, it should be noted that the efficacy levels and corresponding breakthrough times do not indicate actual times of protection at a particular workplace, because the protection can be affected by many factors, e.g. temperature, other substances etc. If there are any signs of degradation, damage or change in appearance (colour, flexibility, shape), it is recommended to replace the gloves with a new pair. Please follow the manufacturer's instructions, not only in terms of gloves' usage, but also in terms of their cleaning, maintenance and storage. It is also important to know how to take off the gloves in order to avoid hands contamination.

Body protection

Antistatic protective clothing made of a dense fabric. Eye/face protection

Protective goggles in a sealed casing with side shields (made of resistant plastic for organic solvents). Respiratory protection

Under normal conditions of use, it is not required. In case of insufficient ventilation, use an approved respirator with an AX type absorber. In the case of work in confined space, insufficient oxygen content in the air, high uncontrolled emission or other circumstances, when the mask with the absorber does not give sufficient protection, use a breathing apparatus with independent air supply.

Environmental exposure controls

Avoid environment contamination, do not empty into drains. Possible emissions from the ventilation systems and processing equipment should be controlled in order to determinate their compatibility with environmental protection regulations.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

appearance:	aerosol
colour:	according to assortment
odour:	characteristic
odour threshold:	not determined
pH:	not applicable
melting point/freezing point:	not determined
initial boiling point and boiling range:	not determined
flash point:	not determined
evaporation rate:	not determined
flammability (solid, gas):	extremely
flammable upper/lower flammability or explosive limits:	not determined
determined vapour pressure:	not determined
vapour density:	not determined
density:	not determined
solubility(ies):	not determined
partition coefficient: n-octanol/water:	not determined
auto-ignition temperature:	not determined
decomposition temperature:	not determined
explosive properties:	not display
oxidising properties:	not display

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dynamic viscosity:

not determined

9.2 Other information

No additional data.

Section 10: Stability and reactivity

10.1 Reactivity

Product is reactive. Vapours may form explosive mixtures with air. See also subsections 10.3 -10.5.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Hazardous reactions are not known.

10.4 Conditions to avoid

Avoid sources of heat and direct sunlight, temperatures above 50°C.

10.5 Incompatible materials

Strong oxidizing agents, strong acids and basis.

10.6 Hazardous decomposition products

Not known.

Section 11: Toxicological information

11.1 Information on toxicological effects Toxicity of components

n-butyl acetate [CAS 123-86-4]

LD₅₀ (oral, rat) 10 770 mg/kg [method OECD 423]
LD₅₀ (skin, rabbit) > 17 600 mg/kg [method OECD 402]

ethyl acetate [CAS 141-78-6]

LD₅₀ (oral, rat)¹ 5 620 mg/kg
LD₅₀ (skin, rabbit)² > 18 000 mg/kg

¹ Source: Yakkyoku. Pharmacy. Vol. 32, Pg. 1241, 1981.

² Source: Union Carbide Data Sheet. Vol. 10/4/1968.

methyl acetate [CAS 79-20-9]

LD₅₀ (oral, rat) 5 000 mg/kg
LC₅₀ (inhalation, rat) 16 000 ppm/4h
LD₅₀ (skin, rat) 5 000 mg/kg
LD₅₀ (skin, rabbit) 2 000

mg/kg

¹ Source: Pozzani, V.C., Weil, C.S., Carpenter, C.P., Ind. Hyg. J., 20: 364-369, 1959

² Source: BASF AG: dept. of toxicology, unpublished results (XI/384a),11-29-61

³ Source: American Industrial Hygiene Association Journal. Vol. 30, Pg. 470, 1969.

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Toxicity of mixture

Acute toxicity

ATEmix* (skin) > 2 000 mg/kg

ATEmix* (oral) 1 075

mg/kg ATEmix* (vapour inhalation) >

20 mg/l Harmful if swallowed.

*values counted taking into account converted acute toxicity point estimate

Skin corrosion/irritation

Based on available data, the classification criteria are not met. Repeated exposure may cause skin dryness or cracking.

Serious eye

damage/irritation Causes

serious eye irritation.

Respiratory or skin

sensitization

Based on available data, the classification criteria are not met, however product contains components that can induce an allergic skin reaction in susceptible individuals.

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

May cause damage to organs: optic nerve, central nervous system. May cause drowsiness or dizziness. 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.

Section 12 : Ecological information

12.1 Toxicity

Toxicity of components

ethyl acetate [CAS 141-78-6]

Acute toxicity for fish LC₅₀ 220-250 mg/l/96h (*Pimephales promelas*)

LC₅₀ 484 mg/l/96h (*Oncorhynchus*

mykiss) Acute toxicity for daphnia EC₅₀ 560 mg/l/48h (*Daphnia magna*)

n-butyl acetate [CAS 123-86-4]

Acute toxicity for fish LC₅₀ 18 mg/l/96h (*Pimephales promelas*) [method

OECD 203] methyl acetate [CAS 79-20-9]

Acute toxicity for fish LC₅₀ 295-348 mg/l/96h (*Pimephales promelas*)

LC₅₀ 250-350 mg/l/96h (*Brachydanio*

rerio) Acute toxicity for daphnia EC₅₀ 1026,7 mg/l/48h (*Daphnia magna*)

Acute toxicity for algae EC₅₀ 120 mg/l/72h (*Desmodesmus subspicatus*)

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Toxicity of mixture

Product is not classified as hazardous for the environment.

12.2 Persistence and degradability

Substances: ethyl acetate, n-butyl acetate, methyl acetate are readily biodegradable.

xylene: is biodegradable in 70% within 10 days (Source: Howard P. H, editor. Handbook of Environmental Fate and Exposure Data for Organic Chemicals. Lewis Publishers Volume II, pp. 505-535,1990)

ethylbenzene: is biodegradable in 70-80% within 28 days [method: ISO 14593-CO2]

toluene: is biodegradable in 86% within 20 days (Source: Water Pollution Control Federation 46(1), 63-77 1974)

petroleum gases, liquefied: are readily biodegradable and are degraded by photolysis in the air. Degradation rate constant are:

degree of degradation in water: $K_{sw} = 0.047 \text{ d}^{-1}$

1 degree of degradation in sediment: $K_{sed} =$

0.0023 d^{-1} degree of degradation in soil: K_{soil}

$= 0.023 \text{ d}^{-1}$

12.3 Bioaccumulative potential

n-butyl acetate: bioconcentration factor $BCF = 14 \log$

$Pow = 2,3$ ethyl acetate: bioconcentration factor $BCF =$

30; $\log Pow = 0,6$ methyl acetate:: $\log Pow = 0,18$

butane: $\log Pow = 2,89$

propane: $\log Pow = 2,3$

12.4 Mobility in soil

Product is mobile in aquatic environment and soil. Gaseous components quickly disperse in the air. The mobility of the mixture components depends on their hydrophilic properties and hydrophobic as well as abiotic and biotic conditions of the soil, including its structure, climatic conditions, seasons and soil organisms.

12.5 Results of PBT and vPvB assessment

Substances contained in the product do not meet the criteria for PBT or vPvB.

12.6 Other adverse effects

The mixture is not classified as hazardous to the ozone layer. Consider other harmful effects of individual components of the mixture on the environment (eg, endocrine disrupting potential, global warming potential).

Section 13 : Disposal considerations

13.1 Waste treatment methods

Disposal methods for the mixture: do not empty into drains. Disposal in accordance with the local legislation. Do not remove product from container. Waste code should be assigned in place of formation.

Disposal methods for used packing: the classification of this waste meets the requirements for hazardous waste. Package should be transferred to a certified company. Do not mix with other wastes. Do not pierce or burn empty containers.

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

Section 14: Transport information

14.1 UN number

UN 1950

14.2 UN proper shipping name

AEROSOLS, flammable

14.3 Transport hazard class(es)

2 (label 2.1)

14.4 Packing group



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Not applicable. Limit quantity 1l.

14.5 Environmental hazards

Product is not classified as dangerous for the environment according to transport regulations.

14.6 Special precautions for user

Avoid sources of ignition and fire. Packages should not be thrown or subjected to impact. Receptacles shall be so placed on the vehicle or container that they cannot tip over or fall. When handling the load, use personal protective equipment in accordance with Section 8

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

Not applicable.

Section 15: Regulatory information

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

Commission 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) 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 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 (Text with EEA relevance) 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 (EC) 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.

15.2 Chemical safety assessment

It is not necessary to carry out a chemical safety assessment for the mixture.

Section 16: Other information

Full text of indicated H phrases mentioned in

section 3 H220 Extremely flammable gas.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

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Clarification of aberrations and acronyms

Flam. Gas. 1 Flammable gas category 1

Aerosol 1 Aerosol category 1

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. Persons related to the transportation of the dangerous goods in compliance with the ADR Agreement should be properly trained within the scope of performed tasks (general training, on-the-job training and training related to the safety issues).

Key literature references and sources of data

This SDS was prepared on the basis of sheets of the individual components, literature data, as well as our knowledge and experience, taking into account current legislation.

Classification and procedures used to classify the mixture in accordance with Reg. EC

1272/2008 Physical hazards - tests

Health hazards - calculation method

Other data

Date of issue: 25.11.2020

Version: 1

Composed by: mgr inż. Kinga Wasilewska (on the basis of producer's data). Safety Data Sheet made by: „THETA” Technical Consulting

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.