SAFETY DATA SHEET

In accordance with 1907/2006 annex II and 1272/2008
(All references to EU regulations and directives are abbreviated into only the numeric term)
Revision date: 2026-11-11
Replaces SDS issued 2024-12-02
Version number 3.0

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

1.1. Product identifier

Trade name	WorkBeads NiMAC GoBio NiMAC
UFI:	5C00-C0QN-300T-801P

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

Identified uses	Research and process chromatography

1.3. Details of the supplier of the safety data sheet

Company	Bio-Works Sweden AB Virdings allé 18 754 50 Uppsala Sweden
Telephone	+46 8 5626 7430
E-mail	info@bio-works.com

1.4. Emergency telephone number

Phone number for emergencies: 999 or 112. The numbers are available 24/7.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flam. Liq. 3, H226
(See section 16)

2.2. Label elements

Hazard pictogram



Signal word	Warning
Hazard statement	
H226	Flammable liquid and vapour
Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P280	Wear protective gloves, protective clothing, and face protection
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
P403+P235	Store in a well-ventilated place. Keep cool
P501	Dispose of contents and container to authorised waste disposal facility

Supplemental hazard information

EUH208 Contains NICKEL SULFATE. May produce an allergic reaction.

2.3. Other hazards

The product does not contain any substances ≥ 0,1% that are assessed to be a PBT or a vPvB in accordance with Annex XIII of REACH (EC) No 1907/2006.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Note that the table shows known hazards of the ingredients in pure form. These hazards are reduced or eliminated when mixed or diluted, see Section 16d.

Constituent	Classification	Concentration
ETHANOL		
CAS No: 64-17-5 EC No: 200-578-6 Index No: 603-002-00-5 REACH: 01-2119457610-43	Flam. Liq. 2; H225	≤20 %
NICKEL SULFATE		
CAS No: 7786-81-4 EC No: 232-104-9 Index No: 028-009-00-5	Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Resp. Sens. 1, Skin. Sens. 1, Muta. 2, Carc. 1A, Repr. 1B, STOT RE 1, Aquatic Acute 1, M = 1, Aquatic Chronic 1, M = 1; H332, H302, H315, H334, H317, H341, H350i, H360D, H372, H400, H410 *Specific concentration limits and acute toxicity estimates (ATE):* *Skin Irrit. 2, H315: C ≥ 20 %* *Skin. Sens. 1, H317: C ≥ 0,01 %* *STOT RE 1, H372: C ≥ 1 %* *STOT RE 2, H373: 0,1 ≤ C < 1 %*	<0.01 %

Explanations to the classification and labelling of the ingredients are given in Section 16e. Official abbreviations are printed in normal font. Text in italics are specifications and/or complements used in the calculation of the classification of this mixture, see Section 16b.

SECTION 4: First aid measures

4.1. Description of first aid measures

Generally

In case of concern, or if symptoms occur, call a doctor/physician.

Upon breathing in

Fresh air and rest. If symptoms persist seek medical advice.

Upon eye contact

Rinse the eye for several minutes with lukewarm water. If irritation persists call a doctor/ophthalmologist.

Upon skin contact

Remove contaminated clothes.
Wash the skin with soap and water.
If symptoms occur, contact a physician.

Upon ingestion

Rinse nose, mouth and throat with water.
If symptoms persist contact a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Upon skin contact

Allergic reactions can occur in sensitized individuals.

4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.
Upon contact with a doctor, make sure to have the label or this safety data sheet with you.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Recommended extinguishing agents

Extinguish with water mist, powder, carbon dioxide or alcoholresistant foam.

Unsuitable extinguishing agents

May not be extinguished with water dispersed under high pressure.

5.2. Special hazards arising from the substance or mixture

Produces fumes containing harmful gases (carbon monoxide and carbon dioxide) when burning, and, in case of incomplete combustion, aldehydes and other toxic, harmful, irritant or environmentally harmful substances.
Emits flammable vapours which may form an explosive mixture with air.
In case of fire, high pressure may build up causing the packaging to explode.

5.3. Advice for firefighters

Protective measures to be taken with regard to other materials at the scene of the fire.
In case of fire use proper breathing apparatus.
Wear full protective clothing.
Cool closed containers that were exposed to fire with water.
Prevent contaminated extinguishing water from entering the stormwater wells.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep unauthorized and unprotected people at a safe distance.
Evacuate the accident area and call an ambulance, if relevant.
Do not inhale the product and avoid exposure to skin, eyes and clothing.
Note the risk of ignition.
Switch off equipment which has an exposed flame, glows, or has a heat source of some other kind.
Switch off power at the main switch. Do not use the power switch in the room where the spillage has occurred.
Note, risk for formation of sparks due to static electricity. Do not remove clothing in a room where spillage has occurred.
Ensure good ventilation.
Use recommended safety equipment, see section 8.
Use breathing apparatus when oxygen levels are low or unknown.

6.2. Environmental precautions

Prevent from entering sewers, basements and pits, or any place where gas accumulation could be dangerous.
Notify rescue services for larger spillage.

6.3. Methods and material for containment and cleaning up

Stop leak if safe to do so.
Do NOT use tools emitting sparks when cleaning.
Absorb the liquid with an inert absorbent, vermiculite, for example. Collect the material for disposal at a waste disposal facility.
Residues after decontamination are disposed of as hazardous waste. Please contact the municipal sanitation department for more information. Show this Safety Data Sheet.
Ensure good ventilation after sanitation.

6.4. Reference to other sections

See section 8 and 13 for personal protection equipment and disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Take the necessary preventive and protective measures for safe handling.
Do not inhale the product and avoid exposure to skin, eyes and clothing.
Work in order to avoid spillage. If spillage does occur, address it immediately in accordance with the directions specified in Section 6 of this safety data sheet.
Open fire, hot items, sparks or other ignition sources must not be present in the environment used for handling this product.
The product may be electrostatically charged. Always ground the containers while transferring the contents from one container to another. Do not use tools that may cause sparks.
Store this product separately from food items and keep it out of the reach of children and pets.
Do not eat, drink or smoke in premises where this product is handled.
Wash your hands after using the product.
Remove contaminated clothes.
Wash contaminated clothing before reuse.
Keep away from incompatible products.
Use recommended safety equipment, see section 8.
Implement appropriate engineering controls if necessary, see Section 8.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored in a manner which prevents hazards to health and the environment. Avoid exposure to humans and animals and do not discharge the product in a sensitive environment.
Take the necessary preventive and protective measures for safe storage.
Keep out of reach for children.
To be stored away from food and animal fodder and away from devices or surfaces that are in contact with those items.
Store tightly, in original packaging.
Always use sealed and visibly labeled packages.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep away from heat and sunlight.
Store as flammable liquid.
Store at 4-30 °C.
Store in dry and cool area.
Must not be stored close to ignition sources.
Store in a well-ventilated space.
Do not store close to incompatible materials (see section 10.5).

7.3. Specific end use(s)

See identified uses in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National limit values

Nickel and its inorganic compounds (except nickel tetracarbonyl)
United Kingdom (EH40/2005)

Time-weighted-average exposure limit (TWA) 0.1 mg/m^3 (Water-soluble nickel compounds (as Ni)) / 0.5 mg/m^3 (Nickel and water-insoluble nickel compounds (as Ni))
Note Sk,Carc,Sen

ETHANOL
United Kingdom (EH40/2005)

Time-weighted-average exposure limit (TWA) 1000 ppm / 1920 mg/m^3

Explanations of abbreviations are given in Section 16b

DNEL

ETHANOL

	Type of exposure	**Route of exposure**	**Value**
Worker	Acute Local	Inhalation	1900 mg/m^3
Consumer	Chronic Systemic	Inhalation	114 mg/m^3
Worker	Chronic Systemic	Dermal	343 mg/kg bw/d
Worker	Chronic Systemic	Inhalation	950 mg/m^3
Consumer	Acute Local	Inhalation	950 mg/m^3
Consumer	Acute Local	Dermal	950 mg/m^3
Consumer	Chronic Systemic	Oral	87 mg/kg
Consumer	Chronic Systemic	Dermal	206 mg/kg bw/d

NICKEL SULFATE

	Type of exposure	**Route of exposure**	**Value**
Worker	Acute Local	Inhalation	0.7 mg/m^3
Consumer	Chronic Systemic	Inhalation	0.00002 mg/m^3
Worker	Acute Systemic	Inhalation	16 mg/m^3
Consumer	Acute Local	Inhalation	0.4 mg/m^3
Consumer	Acute Systemic	Oral	0.012 mg/kg bw

PNEC

ETHANOL

Environmental protection target	PNEC value
Fresh water	0.96 mg/l
Freshwater sediments	3.6 mg/kg
Marine water	0.79 mg/l
Marine sediments	2.9 mg/kg
Microorganisms in sewage treatment	580 mg/l
Soil (agricultural)	0.63 mg/kg

NICKEL SULFATE

Environmental protection target	PNEC value
Fresh water	0.0159 mg/L
Marine water	0.0385 mg/L
Soil (agricultural)	134 mg/kg dw

8.2. Exposure controls

The risks posed by the product or its constituents must be considered in the task specific risk assessment, in accordance with current working environment legislation. The risk assessment should be reviewed regularly and updated if necessary.

8.2.1. Appropriate engineering controls

The ventilation in the workplace must ensure an air quality that meets the requirements of the current working environment legislation. Local exhaust ventilation should be used to remove airborne contaminants at the source. Emergency showers and eye-rinsing facilities must be available at the workplace.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection

Eye protection according to standard EN166 should be worn if there is any danger of direct exposure or splashing.

Skin protection

Use suitable protective clothing.
Use protective gloves fulfilling the standard EN374 if there is a risk of direct contact.
During continuous contact use gloves with a minimum breakthrough time of at least 240 minutes, preferably over 480 minutes.
The most suitable protective glove should be chosen in consultation with the glove supplier, taking into account the risk assessment for the specific task and the properties of the chemicals involved. Note that the breakthrough time of the material is affected by the duration of the exposure, temperature conditions, abrasion, etcetera.
Based on the chemical properties of the product, the following glove materials are recommended (EN 374):.
– Nitrile rubber.

Respiratory protection

Use appropriate respiratory protective equipment in case of insufficient ventilation.
The most appropriate respiratory protective equipment should be decided in consultation with the appointed safety representative, taking into account the risk assessment for the specific task.
Based on the physical and chemical properties of the product, the following filter type(s) and/or filter combination(s) are recommended:.
– A/P2.

8.2.3. Environmental exposure controls

For limiting environmental exposure, see section 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	liquid Form: suspension
(b) Colour	dark blue
(c) Odour	like alcohol
(d) Melting point/freezing point	Not indicated
(e) Boiling point or initial boiling point and boiling range	Not indicated
(f) Flammability	Not indicated
(g) Lower and upper explosion limit	Not indicated
(h) Flash point	35 °C
(i) Auto-ignition temperature	Not indicated
(j) Decomposition temperature	Not indicated
(k) pH	Not indicated
(l) Kinematic viscosity	Not indicated
(m) Solubility	Solubility in water: Partially soluble
(n) Partition coefficient n-octanol/water (log value)	Not indicated
(o) Vapour pressure	Not indicated
(p) Density and/or relative density	Not indicated
(q) Relative vapour density	Not indicated
(r) Particle characteristics	Not indicated

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not indicated

9.2.2. Other safety characteristics

Not indicated

SECTION 10: Stability and reactivity

10.1. Reactivity

The product contains no substances which can lead to hazardous reactions at normal use.
Vapour can create explosive mixtures with air.

10.2. Chemical stability

The product is stable at normal storage and handling conditions.

10.3. Possibility of hazardous reactions

May emit volatile, flammable vapours. Avoid handling close to heat or ignition sources.

10.4. Conditions to avoid

Avoid heat, sparks and open flames.
Protect from heat and direct sunlight.

10.5. Incompatible materials

Avoid contact with strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: Toxicological information

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

Information on possible health hazards are based on experience and / or toxicological properties of several components in the product.

Acute toxicity

The product is not classified as acutely toxic.

ETHANOL

LD50 rabbit 24h: > 20000 mg/kg Dermally
LC50 rat 4h: 124.7 mg/L Inhalation
LD50 rat 24h: 6200 mg/kg Orally

NICKEL SULFATE

LC50 rat 4h: 2.48 mg/l Inhalation
LD50 rat 24h: 361.9 mg/kg Orally

Skin corrosion/irritation

The product is not classified for skin corrosion/irritation.

Serious eye damage/irritation

The product is not classified for serious eye damage/eye irritation.

Respiratory or skin sensitisation

The product is not classified as sensitising.
May cause an allergic reaction in sensitised people.

Germ cell mutagenicity

The product is not classified as mutagen.

Carcinogenicity

The product is not classified as carcinogenic.

Reproductive toxicity

The product is not classified as a reproductive toxicant.

STOT-single exposure

The product is not classified for specific organ toxicity after single exposure.

STOT-repeated exposure

The product is not classified for specific organ toxicity after repeated exposure.

Aspiration hazard

The product is not classified as being toxic for aspiration.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No information is available.

11.2.2. Other information

Not indicated.

SECTION 12: Ecological information

12.1. Toxicity

The product is not to be labelled as a environmental hazard. However, it is not inconceivable that large emissions, or repeated small emissions, can have a harmful effect on the environment.
Prevent release on land, in water and drains.

ETHANOL

LC50 Rainbow trout (Oncorhynchus mykiss) 96h: 13480 mg/L
LC50 Fathead minnow (Pimephales promelas) 96h: 13480 mg/L
LC50 Freshwater water flea (Daphnia magna) 48h: 5400 mg/L
EC50 Freshwater water flea (Daphnia magna) 48 h: 9268 mg/L
LC50 Ide (Leuciscus idus) 48h: 8140 mg/L
EC50 Freshwater water flea (Daphnia magna) 24h: 10800 mg/l
IC50 Algae 72h: > 10.9 mg/L
LC50 Common Bleak (Alburnus alburnus) 96h: 11000 mg/L
LC50 Rainbow trout (Oncorhynchus mykiss) 24h: 11200 mg/L
IC50 Pseudomonas (Pseudomonas putida) 16h: 6500 mg/L

NICKEL SULFATE

LC50 Rainbow trout (Oncorhynchus mykiss) 96h: 0.26 mg/L
LC50 Fathead minnow (Pimephales promelas) 96h: 1 - 3.279 mg/L
EC50 Freshwater water flea (Daphnia magna) 48 h: 435 mg/L
LC50 common carp (Cyprinus carpio) 96h: 1 - 47.58 mg/l
EC50 Algae (Pseudokirchneriella subcapitata) 72h: 0.75 mg/L
LC50 Guppy (Poecilia reticulata) 96h: 1 - 41.04 mg/L

12.2. Persistence and degradability

No information is available.

12.3. Bioaccumulative potential

No information is available.

12.4. Mobility in soil

No information is available.

12.5. Results of PBT and vPvB assessment

The product does not contain any substances ≥ 0,1% that are assessed to be a PBT or a vPvB in accordance with Annex XIII of REACH (EC) No 1907/2006.

12.6. Endocrine disrupting properties

No information is available.

12.7. Other adverse effects

No known effects or hazards.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste handling of the product

Avoid discharge into sewers.
Discarded products must be disposed of as hazardous waste in accordance with regulations.
Not completely emptied packaging can contain remnants of dangerous substances and should therefore be handled as hazardous waste according to the above. Completely emptied packaging can be recycled.
See directive 2008/98/EC on waste. Observe national or regional provisions on waste management.

SECTION 14: Transport information

Where not otherwise stated the information applies to all of the UN Model Regulations, i.e. ADR (road), RID (railway), ADN (inland waterways), IMDG (sea), and ICAO (IATA) (air).

14.1. UN number or ID number

Not classified as dangerous goods

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

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

14.8 Other transport information

An aqueous solution containing not more than 24 % alcohol by volume is not subject to ADR, RID and the IMDG Code in accordance with special provision 144.
An aqueous solution containing not more than 24 % alcohol by volume is not subject to IATA DGR in accordance with special provision A58.

SECTION 15: Regulatory information

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

Not indicated.

15.2. Chemical safety assessment

A chemical safety report is available for the product.

SECTION 16: Other information

16a. Indication of where changes have been made to the previous version of the safety data sheet

Revisions of this document

Earlier versions
2024-12-02 Changes in section(s) 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16.

16b. Legend to abbreviations and acronyms used in the safety data sheet

Full texts for Hazard Class and Category Code mentioned in section 2 and 3

Flam. Liq. 2	Flammable liquids, Hazard Category 2 - Flam. Liq. 2, H225 - Highly flammable liquid and vapour
Acute Tox. 4	Acute toxicity (oral), Hazard Category 4 - Acute Tox. 4, H302 - Harmful if swallowed
Skin Irrit. 2	Skin corrosion/irritation, Hazard Category 2 - Skin Irrit. 2, H315 - Causes skin irritation
Resp. Sens. 1	Respiratory or skin sensitisation, Sensitisation — Respiratory, hazard category 1 - Resp. Sens. 1, H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin. Sens. 1	Respiratory or skin sensitisation, Sensitisation — Skin, hazard category 1 - Skin. Sens. 1, H317 - May cause an allergic skin reaction
Muta. 2	Germ cell mutagenicity, Hazard Category 2 - Muta. 2, H341 - Suspected of causing genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>
Carc. 1A	Carcinogenicity, Hazard Category 1A - Carc. 1A, H350i - May cause cancer by inhalation
Repr. 1B	Reproductive toxicity, Hazard Category 1B - Repr. 1B, H360D - May damage the unborn child
STOT RE 1	Specific target organ toxicity — Repeated exposure, Hazard Category 1 - STOT RE 1, H372 - Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>
Aquatic Acute 1, M = 1	Hazardous to the aquatic environment — Acute Hazard, Category 1 - Aquatic Acute 1, M = 1, H400 - Very toxic to aquatic life
Aquatic Chronic 1, M = 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1 - Aquatic Chronic 1, M = 1, H410 - Very toxic to aquatic life with long lasting effects
Flam. Liq. 3	Flammable liquids, Hazard Category 3 - Flam. Liq. 3, H226 - Flammable liquid and vapour

Explanations of the abbreviations in Section 8

Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity
Carc	Capable of causing cancer and/or heritable genetic damage
Sen	Capable of causing occupational asthma

Explanations of the abbreviations in Section 14

ADR	European Agreement concerning the International Transport of Dangerous Goods by Road
RID	Regulations concerning the International Transport of Dangerous Goods by Rail
IMDG	International Maritime Dangerous Goods Code
ICAO	International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA	The International Air Transport Association

16c. Key literature references and sources for data

Sources for data

Primary data for the calculation of the hazards has preferentially been taken from the official European classification list, 1272/2008 Annex I , as updated to 2026-11-11.

Where such data was not available, alternative documentation used to establish the official classification was used, e.g. IUCLID (International Uniform Chemical Information Database). As a second alternative, information was used from reputable international chemical industries, and as a third alternative other available information was used, e.g. material safety data sheets from other suppliers or information from non-profit associations, where reliability of the source was assessed by expert opinion. If, in spite of this, reliable information could not be sourced, the hazards were assessed by expert opinions based on the known hazards of similar substances, and according to the principles in 1907/2006 and 1272/2008.

Full texts for Regulations mentioned in this Safety Data Sheet

EH40/2005	EH40/2005 Workplace exposure limits
2008/98/EC	DIRECTIVE 2008/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 19 November 2008 on waste and repealing certain Directives
1272/2008	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
1907/2006	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation 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

16d. Methods of evaluating information referred to in 1272/2008 Article 9 which was used for the purpose of classification

Hazard calculation for this mixture has been performed as a cumulative assessment with the aid of expert assessments in accordance with 1272/2008 Annex I , where all available information which may be significant to establishing the hazards of the mixture was assessed together, and in accordance with 1907/2006 Annex XI .

16e. List of relevant hazard statements and/or precautionary statements

Full texts for hazard statements mentioned in section 3

H225	Highly flammable liquid and vapour
H332	Harmful if inhaled
H302	Harmful if swallowed
H315	Causes skin irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317	May cause an allergic skin reaction
H341	Suspected of causing genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>
H350i	May cause cancer by inhalation
H360D	May damage the unborn child
H372	Causes damage to organs <or state all organs affected, if known> through prolonged or repeated exposure<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

16f. Advice on any training appropriate for workers to ensure protection of human health and the environment

Warning for misuse

Not indicated.

Other relevant information

Not indicated

Editorial information

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