

SAFETY DATA SHEET

IB49220, IB49221, IB49222 & IB49223 – YEAST NITROGEN BASE W/O AMINO ACIDS



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1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND THE COMPANY/UNDERTAKING

Product Name: Yeast Nitrogen Base w/o Amino Acids
Product Code: IB49220, IB49221, IB4222, & IB49223
Recommend Use: For further manufacturing use only
Not for human or animal drug use
Yeast Nitrogen Base w/o Amino Acids is a culture medium
Company: IBI SCIENTIFIC
7445 Chavenelle Road
Dubuque, IA 52002
Emergency Tele. Number: 3E Company (Acct# 9027) 1-800-451-8346 / (001) 760-602-8703
Company Tele. Number: 1-800-253-4942 / (001) 563-690-0484
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2. HAZARDOUS IDENTIFICATION

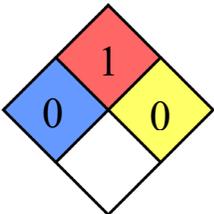
Classification of the substance or mixture:

NFPA: Health Hazards: 0
Flammability Hazards: 1
Instability Hazards: 0
Special Hazards: Non-applicable

29 CFR 1910.1200: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Label elements:

NFPA:



Hazard Statements: Non-applicable

Precautionary Statements: P101-If medical advice is needed, have product container or label at hand * P102-Keep out of reach of children * P501-Dispose of the contents/containers according to the local, state and federal regulations.

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Hazards not otherwise classified (HNOC):

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical description: Mixture of substances

Components:

Identification	Chemical name/Classification		Concentration
CAS: 100043-52-4	Calcium Chloride Eye Irrit. 2A: H319 – Warning		1 - < 2 %
CAS: 497-19-8	Sodium Carbonate Eye Irrit. 2A: H319 – Warning		0.25 - < 1 %
CAS: 10043-35-3	Boric Acid Repr. 1B: H360 – Danger		< 0.25%
CAS: 59-67-6	Nicotinic Acid Eye Irrit. 2A: H319 – Warning		< 0.25%
CAS: 7446-20-0	Zinc Sulphate 7 H2O Acute Tx. 4: H302; Eye Dam. 1: H318 - Danger	 	< 0.25%
CAS: 7705-08-0	Iron Trichloride Acute Tox. 4: H302; Eye Dam. 1: H318; Met. Corr. 1: H290; Skin Irrit. 2: H315 - Danger	 	< 0.25%
CAS: 7681-11-0	Potassium Iodide STOT RE 1: H372 – Danger		< 0.25%
CAS: 7758-98-7	Copper Sulphate Acute Tox. 4: H302; Eye Irrit. 2A: H319; Skin Irrit. 2: H315 – Warning		< 0.25%
CAS: 59-30-3	Folic Acid		< 0.25%

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

4. FIRST AID MEASURES

Eye Contact:	Rinse thoroughly with water for at least 15 minutes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.
Skin Contact:	This product is not classified as hazardous when in contact with the skin. However, in case of skin contact it is recommended to remove contaminated clothes and shoes, rinse the skin or shower the person affected, if necessary, thoroughly with cold water and neutral soap. In case of serious reaction consult a doctor.
Inhalation:	This product is not classified as hazardous through inhalation; however, it is recommended in case of intoxication symptoms to remove the person affected from the area of exposure, provide clean air and keep at rest. Request medical attention if symptoms persist.
Ingestion:	Do not induce vomiting, but if it does happen, keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.
Notes to Physician:	Treat symptomatically.

5. FIRE FIGHTING MEASURES**Suitable extinguishing media:**

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage, or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the regulation on fire protectant systems.

Specific hazards arising from the chemical:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

Special protective equipment and precautions for fire-fighters:

Depending on the magnitude of the fire, it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit, ...)

Additional provisions:

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear protective equipment. Keep unprotected persons away. See section 8.

Environmental Precautions: This is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

Methods and Materials for Containment and Cleaning Up:

Sweep up and shovel product or other means and place in container for reuse (preferred) or disposal

7. HANDLING AND STORAGE**Precautions for safe handling:**

General precautions for safe use: Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

Technical recommendations for the prevention of fires and explosions:

Due to its non-flammable nature, the product does not present a fire risk under normal conditions of storage, manipulation and use.

Technical recommendations on general occupational hygiene:

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

Technical recommendations to prevent environmental risks:

It is recommended to have absorbent material available at close proximity to the product.

Conditions for safe storage, including any incompatibilities:

Technical measures for storage: Store in a cool, dry, well-ventilated location

General conditions for storage: Avoid sources of heat, radiation, static electricity and contact with food.

Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control Parameters:**

Substances whose occupational exposure limits have to be monitored in the workplace:

US. ACGIH Threshold Limit Values (2022):

Identification	Occupational exposure limits	
Iron Trichloride CAS: 7705-08-0	TLV-TWA	1 mg/m ³
	TLV-STEL	2 mg/m ³

California – Table AC-1 Permissible Exposure Limits for Chemical Contaminants:

Identification	Occupational exposure limits	
Iron Trichloride CAS: 7705-08-0	PEL	1 mg/m ³
	STEL	
Copper Sulphate CAS: 7758-98-7	PEL	1 mg/m ³
	STEL	

Nuisance dust: Inhalable dust 10 mg/m³//Respirable dust 4 mg/m³

Appropriate engineering controls:

Individual protection measures, such as personal protective equipment:

As a preventative measure it is recommended to use basic PPE. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgement, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

Respiratory protection:

The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

Specific protection for the hands:

Protective gloves against minor risks. Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional/industrial users, we recommend using chemical protection gloves. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

Eye and face protection:

Panoramic glasses against splash/projections. Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR).

Bodily protection:

Work Clothing. Replace before any evidence of deterioration. Anti-slip work shoes. Replace before any evidence of deterioration.

Additional emergency measures:

Emergency Shower. Standards ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011. Eyewash Stations. Standards DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011.

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Not available
Physical state at 68 °F:	Solid
Color:	Not available
Odor:	Not available
Odor threshold:	Non-applicable
Boiling point at atmospheric pressure:	Non-applicable
Vapor pressure at 68 °F:	Non-applicable
Vapor pressure at 122 °F:	Non-applicable
Evaporation rate at 68 °F:	Non-applicable
Density at 68 °F:	1890.9 kg/m ³
Relative density at 68 °F:	1.891
Dynamic viscosity at 68 °F:	Non-applicable
Kinematic viscosity at 68 °F:	Non-applicable
Kinematic viscosity at 104 °F:	Non-applicable
Concentration:	Non-applicable
pH:	Non-applicable
Vapor density at 68 °F:	Non-applicable
Partition coefficient n-octanol/water 68 °F:	Non-applicable
Solubility in water at 68 °F:	Non-applicable
Solubility properties:	Non-applicable
Decomposition temperature:	Non-applicable
Melting point/freezing point:	Non-applicable
Flash Point:	Non-applicable
Flammability (solid, gas):	Non-applicable
Autoignition temperature:	Non-applicable
Lower flammability limit:	Non-applicable
Upper flammability limit:	Non-applicable
Lower explosive limit:	Non-applicable
Upper explosive limit:	Non-applicable
Median equivalent diameter:	Non-applicable
Explosive properties:	Non-applicable
Oxidizing properties:	Non-applicable
Corrosive to metals:	Non-applicable
Heat of combustion:	Non-applicable
Aerosols-total percentage (by mass) of flammable components:	Non-applicable
Surface tension at 68 °F:	Non-applicable
Refraction index:	Non-applicable

10. STABILITY AND REACTIVITY

Reactivity:	No hazardous reactions are expected because the product is stable under recommended storage conditions.
Chemical stability:	Chemically stable under the indicated conditions of storage, handling and use.
Possibility of hazardous reactions:	Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

Conditions to avoid:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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Incompatible materials:

Acids	Water	Oxidizing Materials	Combustible Materials	Others
Not applicable	Not applicable	Precaution	Not applicable	Avoid alkalis or strong bases

Hazardous decomposition products: Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide, carbon monoxide and other organic compounds.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects: The experimental information related to the toxicological properties of the product itself is not available.

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

Ingestion (acute effect): Acute toxicity: based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.

Corrosive/ Irritability: based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

Inhalation (acute effect): Acute toxicity: based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for inhalation. For more information see section 3.

Corrosivity/Irritability: based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for this effect. For more information see section 3.

Contact with the skin and eyes (acute effect):

Contact with the skin: based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for skin contact. For more information see section 3.

Contact with the eyes: based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Reproduction toxicity: Based on available data, the classification criteria are not met. However, it does contain substances classified as hazardous for this effect. For more information see section 3.

Sensitizing effects:

Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitizing effects. For more information see section 3.

Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

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Specific target organ toxicity (STOT) – single exposure:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Specific target organ toxicity (STOT) – repeated exposure:

Specific target organ toxicity (STOT) – repeated exposure: Based on available data, the classification criteria are not met, however, it does contain substances which are classified as dangerous due to repetitive exposure. For more information see section 3.

Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Aspiration hazard:

Based on available date, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Calcium chloride CAS: 10043-52-4	LD50 oral	2301 mg/kg	Rat
	LD50 dermal	5100 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	-
Sodium carbonate CAS: 497-19-8	LD50 oral	2800 mg/kg	Rat
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-
Boric acid CAS: 10043-35-3	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-
Nicotinic acid CAS: 59-67-6	LD50 oral	7000 mg/kg	Rat
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-
Zinc sulphate 7 H ₂ O CAS: 7446-20-0	LD50 oral	1710 mg/kg	Rat
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-
Iron trichloride CAS: 7705-08-0	LD50 oral	1300 mg/kg	Mouse
	LD50 dermal	>2000 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	-
Potassium iodide CAS: 7681-11-0	LD50 oral	2068 mg/kg	Rat
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-
Copper sulphate CAS: 7758-98-7	LD50 oral	300 mg/kg	Rat
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-
Folic Acid CAS: 59-30-3	LD50 oral	10000 mg/kg	Mouse
	LD50 dermal	Non-applicable	-
	LC50 inhalation	Non-applicable	-

12. ECOLOGICAL INFORMATION**Ecotoxicity (aquatic and terrestrial, where available):****Acute Toxicity:**

Identification	Concentration		Species	Genus
Calcium chloride CAS: 10043-52-4	LC50	4630 mg/L (96 h)	Pimephales promelas	Fish
	EC50	2400 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	27000 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
Sodium carbonate CAS: 497-19-8	LC50	740 mg/L (96 h)	Gambusia affinis	Fish
	EC50	265 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable	-	-
Boric Acid CAS: 10043-35-3	LC50	447 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	Non-applicable	-	-
	EC50	Non-applicable	-	-
Iron trichloride CAS: 7705-08-0	LC50	21.84 mg/L (96 h)	Pimephales promelas	Fish
	EC50	9.6 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Non-applicable	-	-
Potassium iodide CAS: 7681-11-0	LC50	896 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	Non-applicable	-	-
	EC50	Non-applicable	-	-

Chronic toxicity:

Identification	Concentration		Species	Genus
Calcium chloride CAS: 10043-52-4	NOEC	230 mg/L	Oncorhynchus mykiss	Fish
	NOEC	481 mg/L	Daphnia magna	Crustacean
Boric acid CAS: 10043-5-3	NOEC	11.2 mg/L	Pimephales promelas	Fish
	NOEC	25.9 mg/L	Hyalella azteca	Crustacean
Potassium iodide CAS: 7681-11-0	NOEC	66.356 mg/L	N/A	Fish
	NOEC	29.87 mg/L	Daphnia magna	Crustacean

Persistence and degradability: Not available**Bio accumulative potential:****Substance-specific information:**

Identification	Bioaccumulation potential	
	Boric Acid CAS: 10043-35-3	BCF
	Pow Log	-0.76
	Potential	Low

Mobility in soil: Not available**Results of PBT and vPvB assessment:**

Non-applicable

13. DISPOSAL CONSIDERATIONS**Disposal methods:**

Waste management: Consult the authorized waste service manager on the assessment and disposal operation. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains.

Regulations related to waste management:

40 CFR Part 261 – IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

14. TRANSPORT INFORMATION**IATA**

Not regulated

US DOT

Not regulated

15. TOXICOLOGICAL INFORMATION**Safety, health and environmental regulations specific for the product in question:**

CALIFORNIA LABOR CODE: The Hazardous Substances List: *zinc sulphate 7 H₂O (7446-20-0); Iron trichloride (7705-08-0); Copper sulphate (7758-98-7)*

California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986):

Birth defects or other reproductive harm: Non-applicable

Cancer: Non-applicable

CANADA-Domestic Substances List (DSL):

Calcium chloride (10043-52-4); sodium carbonate (497-19-8); Boric acid (10043-35-3); Nicotinic acid (59-67-6); zinc sulphate 7 H₂O (7446-20-0); iron trichloride (7705-08-0); potassium iodide (7681-11-0); copper sulphate (7758-98-7); folic acid (59-30-3)

CANADA-Non-Domestic Substances List (NDSL):

Non-applicable

Hazardous Air Pollutants (Clean Air Act):

Non-applicable

Massachusetts RTK – Substance List:

zinc sulphate 7 H₂O (7446-10-0); Iron trichloride (7705-08-0); copper sulphate (7758-98-7)

Minnesota – Hazardous substances ERTK:

Boric acid (10043-35-3); iron trichloride (7705-08-0)

New Jersey Worker and Community Right-to-Know Law:

Zinc sulphate 7 H₂O (7446-20-0); iron trichloride (7705-08-0); copper sulphate (7758-98-7)

NTP (National Toxicology Program): Non-applicable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096):

Non-applicable

Pennsylvania Worker and Community Right-to-Know Law:

Zinc sulphate 7 H₂O (7446-20-0); Iron trichloride (7705-08-0); copper sulphate (7758-98-7)

Rhode Island – Hazardous substances RTK:

Zinc sulphate 7 H₂O (7446-20-0); Iron trichloride (7705-08-0); copper sulphate (7758-98-7)

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The Toxic Substances Control Act (TSCA):

Calcium chloride (10043-52-4); sodium carbonate (497-19-8); Boric acid (10043-35-3); Nicotinic acid (59-67-6); zinc sulphate 7 H₂O (7446-20-0); iron trichloride (7705-08-0); potassium iodide (7681-11-0); copper sulphate (7758-98-7); folic acid (59-30-3)

Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372):

Zinc sulphate 7 H₂O (7446-20-0); copper sulphate (7758-98-7)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):

Reportable Quantities – zinc sulphate 7 H₂O (1 pound); iron trichloride (1000 pounds); copper sulphate (10 pounds)

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Take into consideration other applicable federal, state, and local laws and regulations.

16. OTHER INFORMATION

Issuing Date: 06-Feb-2024

Revision Date: N/A

Revision Note: -

Recommended Restrictions: No information available

Disclaimer: The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release; and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the test.

End of Safety Data Sheet