

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 2/5/2023 Revision date: 2/5/2023 Supersedes: 1/10/2023 Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Trade name : Affi-Avidin

1.2. Recommended use and restrictions on use

Recommended use : Technical application
Restrictions on use : Any use other than those identified.

1.3. Supplier

Proparts SA, A Bioseutica Group Company
Corso Elvezia 4, CH-6900 Lugano, Switzerland
Phone: +41 (0) 91 9119036 - Fax: +41 (0) 91 9119037

info-fordras@bioseutica.com

1.4. Emergency telephone number

Emergency number : QESH Manager Bioseutica BV
+31-(0)36- 5234059 (business hours)
+31-(0)6- 12376175 (24 hours)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Aqueous solution
Contains Sodium Azide less than 0.1% – not a hazardous substance at this concentration.

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Name	Product identifier	%	GHS US classification
Avidin	CAS-No.: 1405-69-2	< 100	Not classified
sodium azide	CAS-No.: 26628-22-8	0.05	Acute Tox. 2 (Oral), H300 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Obtain medical attention if irritation persists.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. If you feel unwell, seek medical advice. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Persons suffering from egg allergies should take special precautions to avoid inhalation, contact and ingestion as product is egg white protein.
Symptoms/effects after inhalation	: At high concentrations, the vapors can be irritating to the respiratory system.
Symptoms/effects after skin contact	: May cause skin irritation.
Symptoms/effects after eye contact	: Contact may cause eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: The product itself does not burn.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	: Avoid contact with skin and eyes. Evacuate the personnel away from the fumes.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

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|----------------------------------|--|
| Protective equipment | : Wear personal protection equipment. |
| Emergency procedures | : Ventilate spillage area. Evacuate unnecessary personnel. |
| Measures in case of dust release | : Avoid contact with skin, eyes and clothing. |

6.1.2. For emergency responders

- | | |
|----------------------|--|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|---|
| Methods for cleaning up | : Take up liquid spill into absorbent material. Flush residue with large amounts of water. |
| Other information | : Ensure adequate ventilation. Wash contaminated clothes. Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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|-------------------------------|--|
| Precautions for safe handling | : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid dust formation. Provide good ventilation in process area to prevent formation of vapor. |
| Hygiene measures | : Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke in areas where product is used. Remove all contaminated clothing and footwear. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

- | | |
|------------------------|---|
| Technical measures | : Keep in the original container. Refrigerate (2-8°C). Do not Freeze. |
| Storage conditions | : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. (<65% RH). Store in a well-ventilated place. Keep cool. |
| Incompatible materials | : Sources of ignition. Direct sunlight. Heat sources. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Affi-Avidin
No additional information available
Avidin (1405-69-2)
No additional information available

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sodium azide (26628-22-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Sodium azide
ACGIH OEL Ceiling	0.29 mg/m ³
ACGIH OEL Ceiling [ppm]	0.11 ppm
Remark (ACGIH)	TLV® Basis: Card impair; lung dam. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2023
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (Ceiling)	0.3 mg/m ³
NIOSH REL C [ppm]	0.1 ppm
US-NIOSH chemical category	Potential for dermal absorption

8.2. Appropriate engineering controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide local exhaust or general room ventilation to minimize exposure to dust. Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Dust production: dust mask with filter type P2. Safety glasses.

Hand protection:
Chemical resistant protective gloves (EN 374) suitable with prolonged, direct contact. butyl rubber gloves. Breakthrough time : > 480 min. 0.7 mm. short-term. nitrile rubber gloves. 0.4 mm. Breakthrough time : > 30 min. Osha (29 CFR 1910.135).
Eye protection:
Chemical goggles or safety glasses. Use equipment for eye protection tested and approved in accordance with OSHA requirements (29 CFR 1910.133)
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. (EN 136/140/145). Wear respiratory protection when in the presence of vapor, dust, and aerosols.

Personal protective equipment symbol(s):



Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Aqueous solution.
Color	: light orange dark yellow
Odor	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Almost odourless
Odor threshold	: No data available
pH	: 7 – 8
Melting point	: Not applicable
Freezing point	: Not determined
Boiling point	: Not determined
Flash point	: Not determined
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not flammable.
Vapor pressure	: Not determined
Relative vapor density at 20°C	: Not determined
Relative density	: Not determined
Solubility	: In water, material soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: Not determined
Viscosity, dynamic	: Not determined
Explosion limits	: No data available
Explosive properties	: None known.
Oxidizing properties	: None known.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Product will not undergo polymerization.

10.4. Conditions to avoid

Direct sunlight.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No hazardous decomposition products under suitable storage and usage conditions as prescribed.

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Additional information:

Sodium azide. Hazardous decomposition products: Nitrogen oxides, nitrogen, hydrazoic acid.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
 Acute toxicity (dermal) : Not classified
 Acute toxicity (inhalation) : Not classified

sodium azide (26628-22-8)

LD50 oral rat	27 mg/kg
LD50 dermal rabbit	20 mg/kg
LC50 Inhalation - Rat	0.054 – 0.52 mg/l/4h
ATE US (oral)	27 mg/kg body weight
ATE US (dermal)	20 mg/kg body weight
ATE US (vapors)	0.054 mg/l/4h
ATE US (dust, mist)	0.054 mg/l/4h

Skin corrosion/irritation : Not classified
 pH: 7 – 8

Serious eye damage/irritation : Not classified
 pH: 7 – 8

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : Not determined

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Persons suffering from egg allergies should take special precautions to avoid inhalation, contact and ingestion as product is egg white protein.

Symptoms/effects after inhalation : At high concentrations, the vapors can be irritating to the respiratory system.

Symptoms/effects after skin contact : May cause skin irritation.

Symptoms/effects after eye contact : Contact may cause eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

sodium azide (26628-22-8)

EC50 - Crustacea [1]	0.4 – 6.4 mg/l Source: ECHA
LC50 - Fish [2]	0.7 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 96h - Algae [1]	0.35 mg/l Source: ECHA

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sodium azide (26628-22-8)	
ErC50 algae	0.348 mg/l

12.2. Persistence and degradability

Affi-Avidin	
Persistence and degradability	Not established.
Avidin (1405-69-2)	
Persistence and degradability	Not established.
sodium azide (26628-22-8)	
Not rapidly degradable	
Persistence and degradability	Product is not easily biodegradable.

12.3. Bioaccumulative potential

Affi-Avidin	
Bioaccumulative potential	Not established.
Avidin (1405-69-2)	
Bioaccumulative potential	Not established.
sodium azide (26628-22-8)	
Partition coefficient n-octanol/water (Log Pow)	0.16 Source: NIOSH

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
 Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
 Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable

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DOT	TDG	IMDG	IATA
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user**DOT**

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

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

Not applicable

SECTION 15: Regulatory information**15.1. US Federal regulations**

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Avidin	CAS-No. 1405-69-2	< 100%
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Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

sodium azide	CAS-No. 26628-22-8	0.05%
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sodium azide (26628-22-8)

CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
Section 302 EPCRA Reportable Quantity (RQ)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb (this material is a reactive solid, the TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)

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15.2. International regulations

CANADA

Avidin (1405-69-2)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

sodium azide (26628-22-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

sodium azide (26628-22-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

sodium azide (26628-22-8)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date : 2/5/2023

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Abbreviations and acronyms

WGK	Water Hazard Class
VOC	Volatile Organic Compounds
vPvB	vPvB - Very Persistent and Very Bioaccumulative
TLV	TLV- Threshold Limit Value
STEL	Short-Term Exposure Limit

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Abbreviations and acronyms	
SDS	SDS - Safety Data Sheet
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
ADR	Overland transport (ADR)
OECD	Organisation for Economic Co-operation and Development
N.O.S.	Not Otherwise Specified
OEL	Occupational Exposure Limit
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
LD50	Median lethal dose
LC50	Median lethal concentration
EC50	Median effective concentration
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
EC-No.	European Community number
CSR	CSR - Chemical Safety Report

Indication of changes:			
Section	Changed item	Change	Comments
3	Composition/information on ingredients	Modified	

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
Avidin	CAS-No. 1405-69-2	< 100%