CERTIFICATE OF ANALYSIS

PRODUCT NAME: ALLANTOIN

BATCH/LOT NUMBER: 4529510

BEST BEFORE DATE: January 2027

IDENTITY/TEST	SPECIFICATION	RESULT
Composition	5 - ureidohydantoin	
Appearance	White, odourless crystalline powder	Conforms
Purity (potentiometric)	98.0 – 101.0%	99.54
Melting Point	224 – 232°C	228
Moisture Content	0.1% max	Conforms
pH (0.5% solution) @ 25°C	4.0 – 6.0	4.4
Sulphated Ash	0.1% max	Conforms
Heavy Metals (as Pb)	15 ppm max	Conforms
Iron	10 ppm max	Conforms
Arsenic	2 ppm max	Conforms
Bulk Density	0.7 kg / m^3	Conforms
Solubility	Fully miscible with water & ethanol	Conforms
Microbiological purity	< 10 CFU / g. (aerobes & anaerobes) pathogens absent	<10

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	ALLANTOIN
IUPAC name	:	1-(2,5-dioxoimidazolidin-4-yl)urea
EC-No.	:	202-592-8
CAS-No.	:	97-59-6
REACH registration No	:	01-2119953242-43
Product code	:	20035
Formula	:	C4H6N403

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Skin protectant

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Madar Corporation Limited
19 - 20 Sandleheath Industrial Estate
Fordingbridge
SP6 1PA
01425 655 555

1.4. Emergency telephone number

Emergency number : **+44(0)1425 655 555 - 1600hrs GMT)**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Precautionary statements (CLP) : P262 - Do not get in eyes, on skin, or on clothing.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

Other hazards which do not result in classification : The product does not meet the PBT and vPvB classification criteria. The substance/mixture has no endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-(2,5-dioxoimidazolidin-4-yl)urea	CAS-No.: 97-59-6 EC-No.: 202-592-8 REACH-no: 01-2119953242-43	98.0 -101%	Not classified

Comments : Other names: 5-Ureidohydantoin; Glyoxyldiureide

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : First aid personnel should wear appropriate protective equipment during any rescue. For further information on this product, refer to Safety Data Sheet.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. Get immediate medical advice and attention.

First-aid measures after skin contact : Remove all contaminated clothing and footwear. Get medical attention if irritation persists after washing. Wash skin with plenty of water.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. Rinse eyes with water as a precaution.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : Dust from this product may cause respiratory irritation.

Symptoms/effects after skin contact : None under normal conditions.

Symptoms/effects after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/effects after ingestion : None known.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Explosion hazard : Dust can form an explosive mixture with air.

Hazardous decomposition products in case of fire : Thermal decomposition generates toxic vapours. Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Precautionary measures fire	:	Wear suitable protective clothing, gloves and eye/face protection.
Firefighting instructions	:	Do not dispose of fire-fighting water in the environment.
Protection during firefighting	:	Positive pressure self-contained breathing apparatus (SCBA) and structural fire-fighters protective clothing. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	:	Control run-off water by containing and keeping it out of sewers and watercourses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Ensure procedures and training for emergency decontamination and disposal are in place. Avoid generation and spreading of dust. Avoid breathing dust, mist or spray. Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel

Protective equipment	:	For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Ventilate spillage area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Collect spillage. Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain and collect as any solid.
Methods for cleaning up	:	Take up mechanically (preferable by vacuum cleaning or gentle sweeping). Collect up the product and place it in a spare container suitably labelled. Dispose of this material and its container to hazardous or special waste collection point. The contaminated area should be cleaned up immediately with a suitable decontaminant.
Other information	:	Dispose in a safe manner in accordance with local/national regulations.

6.4. Reference to other sections

See section 1 for emergency contact information. See section 2 for hazard identification. See section 7 for information on safe handling. See section 8 for information on personal protecitve equipment. See section 12 for additional information on ecological hazards. See section 13 for information on disposal. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with eyes, skin and clothing.
Hygiene measures	:	The workplace should be equipped with an emergency shower and eye-rinsing facility. Wash contaminated clothing before reuse. Use good personal hygiene practices. 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

Storage conditions	:	Keep away from food, drink and animal feedingstuffs. Store in a well-ventilated place. Keep cool. Do not store near heat sources or expose to high temperatures. Store away from. Oxidising agents. Strong acids. Strong alkalis.
Storage area	:	Chemical storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:
Wear a mask. Gloves. Wear eye protection. Wear protective clothing.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Face shield and eye protection. ISO 16321-1. Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Chemical resistant safety shoes. EN 465. EN 13832

Hand protection:
Wear suitable gloves resistant to chemical penetration. ISO 374-1

8.2.2.3. Respiratory protection

Respiratory protection:
EN 136. ISO 13688

8.2.2.4. Thermal hazards

Thermal hazard protection:
When handling hot product: Heat-resistant protective clothing.

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	White.
Appearance	:	Crystalline powder.
Odour	:	characteristic.
Odour threshold	:	No determined
Melting point	:	230°C
Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Not available
Explosive properties	:	Not explosive. a dust explosion could result from an air / dust mixture.
Oxidising properties	:	No oxidising properties.
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	4.0 - 6.0
pH solution concentration	:	0.5 %
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Solubility	:	Slightly soluble in water. Water: 1 g/190 ml
Partition coefficient n-octanol/water (Log Kow)	:	<3, Aquatic organisms
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	~ 0.7 kg/m³ (bulk)
Relative density	:	Not available
Relative vapour density at 20°C	:	Not applicable
Relative gas density	:	Not applicable.
Particle size	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Thermal stability	:	Stable under normal conditions of use

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1)	:	Not applicable
Other properties	:	None under normal conditions

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid high temperatures. Direct sunlight. Water. Moisture.

10.5. Incompatible materials

Strong oxidising agents. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

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

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

ALLANTOIN (97-59-6)	
LD50 oral rat	5000 mg/kg bw
LD50 dermal rabbit	5000 mg/kg bw
LC50 Inhalation - Rat	Not available

Skin corrosion/irritation : Not irritating
pH: 4.0 - 6.0

Serious eye damage/irritation : Not irritating
pH: 4.0 - 6.0

Respiratory or skin sensitisation : Not classified

ALLANTOIN (97-59-6)	
Additional information	Not available

ALLANTOIN (97-59-6)	
Additional information	Based on available data, the classification criteria are not met

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

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Based on available data the classification criteria are not met.

11.2.2. Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified
Hazardous to the aquatic environment, long–term (chronic) : Not classified
Not rapidly degradable

ALLANTOIN (97-59-6)	
LC50 - Fish [1]	> 5000 mg/l 96 hr Fish

ALLANTOIN (97-59-6)	
EC50 - Crustacea [1]	> 100 mg/l 48h Daphnia Magna (OECD 202)
EC50 72h - Algae [1]	> 100 mg/l Desmodesmus subspicatus

12.2. Persistence and degradability

ALLANTOIN (97-59-6)	
Persistence and degradability	Readily biodegradable. (OECD 301B method).
Biodegradation	>76% 28 days

12.3. Bioaccumulative potential

ALLANTOIN (97-59-6)	
Partition coefficient n-octanol/water (Log Kow)	<3, Aquatic organisms
Bioaccumulative potential	No bioaccumulation expected.

12.4. Mobility in soil

ALLANTOIN (97-59-6)	
Mobility in soil	Limited solubility

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance/mixture has no endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects : No adverse effects expected.
Additional information : No other effects known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : The generation of waste should be avoided or minimized wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Other information, restriction and prohibition regulations : Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 and all its amendments and modifications. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 and all its amendments and modifications.

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

United Kingdom

British National Regulations : REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758.
The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.
Health and Safety at Work etc. Act 1974 (as amended).
EH40/2005 Workplace exposure limits.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration

Abbreviations and acronyms:	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Safety Data Sheet (SDS), EU

ALLANTOIN
PRODUCT STATEMENT

MATERIAL TRADE NAME: ALLANTOIN
CHEMICAL NAME: Glyoxyldiureide
CAS NUMBER: 97-59-6
EINECS NUMBER: 202-592-8
TARIFF CODE: 2933299090
COUNTRY OF ORIGIN: China

REACH (registration, evaluation and authorisation of chemicals) REGULATION STATEMENT
EU REACH Registration Number: 01-2119953242-43-XXXX.
DUIN listed for GB REACH.
ALLANTOIN does not contain any Substances of Very High Concern (SVHC).

ALLERGENS AND INTOLERANCES (EU Directive 1169/2011)
We hereby confirm ALLANTOIN does not contain any substances or products that cause allergies or intolerances listed in Annex II of EU Directive 1169/2011.

IFRA 50 STATEMENT
ALLANTOIN is purely of synthetic origin and is not classed as fragrance compound.

VEGAN/VEGETARIAN STATEMENT
We hereby confirm that ALLANTOIN is purely of synthetic origin and therefore suitable for Vegans/Vegetarians.

BSE/TSE STATEMENT
ALLANTOIN is purely of synthetic origin and no raw materials or additives used in the manufacture of ALLANTOIN are derived from animal origin. During manufacture or packing ALLANTOIN never comes into contact with animal or bovine material. Therefore, any risk that ALLANTOIN carries Spongiform or BSE viruses can be excluded.

HALAL STATEMENT
ALLANTOIN is purely of synthetic origin and meets the following requirements:
Does not contain any traces of pork (porcine).
Does not contain any animal products.
No ethanol is used in the manufacturing process.

NON-ANIMAL TESTING DECLARATION
ALLANTOIN has not been tested on animals since 31/12/1985.

CARCINOGENIC, MUTAGENIC, REPROTOXIC (CMR) ATTESTATION
(Evaluation in accordance with European Directive 1272/2008/EEC)
ALLANTOIN does not contain any substances listed CMR 1A, 1B and 2 above the threshold limit in accordance with European Directive 1272/2008/EEC.

GMO FREE STATEMENT
ALLANTOIN is purely of synthetic origin and no raw materials or additives used in the manufacture of ALLANTOIN are derived from GMO materials. Therefore, to the best of our knowledge and belief ALLANTOIN is GMO free

CALIFORNIA PROPOSITION 65 DECLARATION
To the best of our knowledge and belief, ALLANTOIN does not contain any contaminants or bi-products known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act.

NANO MATERIALS DECLARATION
We confirm that to the best of our knowledge and belief ALLANTOIN does not contain any materials defined as nanomaterials in accordance with the Cosmetic Regulation 1223/2009/EC.

CERTIFICATE OF ORIGIN
We hereby confirm that ALLANTOIN is purely of synthetic origin.

COSMETIC REGULATION EC 1223/2009 COMPLIANCE
We hereby confirm that ALLANTOIN complies with the Cosmetic Regulation EC 1223/2009 (as amended) and can be used as an ingredient in cosmetic applications. In addition:

- ALLANTOIN is not listed in Annex II to VI of the cosmetic legislation 1223/2009 (as amended).
- ALLANTOIN does not contain any significant levels of forbidden/restricted substances (listed in annex II to VI of 1223/2009/EC and its amendments) at detectable level. However, according to art.17, trace levels (technically unavoidable in good manufacturing practices) of non-intended prohibited substance could be present but are not expected.

HEAVY METALS STATEMENT
ALLANTOIN contains heavy metals (as Pb): 15 ppm max.

ICH/VICH/USP GUIDELINES ON RESIDUAL SOLVENTS
In accordance with ICH-guideline CPMP/ICH/283/95, VICH guideline CVMP/VICH/502/99 and USP requirements stated in Residual Solvents <467> together with information on Impurities in Official Articles <1086> the following residual solvents are present:
Class 1, 2, 3: none
USP Residual Solvents <467> table 4 (not limited to class 1, 2, 3 and table 4 solvents listed in USP <467> document): none

COLOURS STATEMENT
ALLANTOIN does not contain the colours E102, E104, E110, E122, E124 or E129.

MICROBIOLOGY STATEMENT
ALLANTOIN is not expected to contain any microbes due to the nature of the product.

MYCOTOXINS STATEMENT
ALLANTOIN does not contain any mycotoxins.

PESTICIDE RESIDUE STATEMENT
ALLANTOIN does not contain any pesticides.

IRRADIATION STATEMENT
ALLANTOIN is not subjected to irradiation during the manufacturing process

DIOXIN STATEMENT
ALLANTOIN does not contain any raw material contaminated with dioxin nor do we believe that the product is contaminated with dioxin by way of the manufacturing process.

LATEX STATEMENT
ALLANTOIN does not contain any raw material contaminated with latex nor do we believe that the product is contaminated with latex by way of the manufacturing process.

POLYCYCLIC AROMATIC HYDROCARBONS (PAH) and POLYCHLORINATED BIPHENYL (PCB) STATEMENT
ALLANTOIN does not contain polycyclic aromatic hydrocarbons (PAH) or polychlorinated biphenyl (PCB).

PHTHALATE STATEMENT
ALLANTOIN does not contain phthalates.

VOLATILE ORGANIC COMPOUND STATEMENT
ALLANTOIN does not contain volatile organic compounds (VOCs).

SECONDARY AMINES, NITROSAMINES & PETROLEUM STATEMENT
We hereby confirm ALLANTOIN does not contain any secondary amines, nitrosamines or petroleum products.

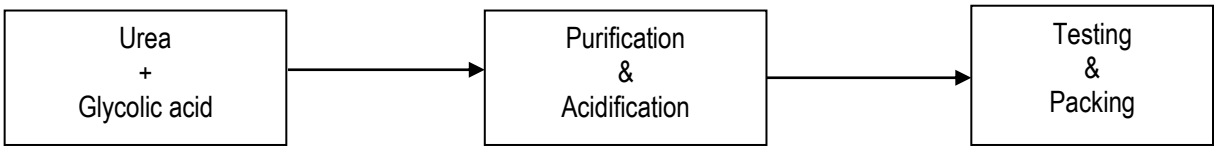
MOSH/MOAH STATEMENT
ALLANTOIN is purely of synthetic origin and no raw materials or additives used in the manufacture of ALLANTOIN are derived from Mineral Oils Saturated Hydrocarbons (MOSH) or Mineral Oils Aromatic Hydrocarbons (MOAH). During manufacture or packing ALLANTOIN never comes into contact with MOSH/MOAH.

ISO 16128-1:2016
We hereby confirm that ALLANTOIN is purely of synthetic origin and no natural and/or organic ingredients are used in the manufacturing process. Therefore, ISO 16128-1:2016 is not applicable.

SOIL ASSOCIATION
ALLANTOIN is purely of synthetic origin therefore not applicable.

MICROPLASTIC STATEMENT
ALLANTOIN does not contain any microplastics nor do we believe that the product is contaminated with microplastics by way of the manufacturing process.

MANUCATURING FLOW CHART



MANUFACTURING PLANT CERTIFICATION
The manufacturing plant is ISO 9001:2015 certified.

Date: 10th November 2023

PRODUCT SPECIFICATION SHEET ALLANTOIN

PROPERTY	SPECIFICATION
INCI Name	Allantoin
IUPAC Name	1-(2,5-dioxoimidazolidin-4-yl)urea
Synonyms	5-Ureidohydantoin; Glyoxylic acid diureide
Empirical Formula	$C_4H_6O_3N_4$
Molecular Weight	158.12
CAS Number	97-59-6
EINECS Number	202-592-8
Pharmacopoeia Status	Conforms to USP, BP & Ph. Eur. monographs
Identification (A-D)	Conforms to the pharmacopoeia monographs
Appearance	White, odourless crystalline powder
Purity (potentiometric)	98.0 - 101.0 %
Melting Point (with decomposition)	225°C min
Optical Rotation	-0.10° to +0.1°
Loss on Drying (100-105°C)	0.1% max
pH (0.5% solution) @ 25°C	4.0 - 6.0
Sulphated Ash	0.1% max
Reducing Substances	Conforms
Related Substances	0.5 max
Heavy Metals (Total as Pb)	10 ppm max
Iron	15 ppm max
Arsenic	1 ppm max
Bulk Density	0.7 kg/m^3
Solubility	Slightly soluble in water; very slightly soluble in alcohol
Microbiological purity	<10 CFU/g (aerobes & anaerobes); Pathogens absent
Packaging	25 kg net in fibre drums
Storage Conditions	Store in original containers, tightly closed and properly labelled. Store in a cool, dry, well-ventilated area, away from direct sunlight, heat and sources of ignition.

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