Material Safety Data Sheet (MSDS)

Section 1: Identification Of The Substance/Mixture And Of The Company/Undertaking	
1.1 Product Identifier	**Product Names**: Loose alanine pellet dosimeters & Tape Tab dosimeters. **Brand**: Harwell Dosimeters **REACH No**. A registration number is not available for this mixture (formulation) as the mixture or its uses are exempted from registration or the annual tonnage does not require a registration.
1.2 Relevant identified uses of the substance or mixture and uses advised against	Alanine dosimeters are an internationally recognised product used for the measurement of radiation dose.
1.3 Details of the supplier of the safety data sheet	Harwell Dosimeters Ltd Unit 4 Moorbrook Southmead Industrial Estate Didcot Oxfordshire OX11 7HP United Kingdom HDLorders@steris.com
1.4 Emergency Telephone number	+44 01235 819013 Available Monday – Thursday between 8am – 4pm

Section 2: Hazards Identification	
2.1 Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008, but a safety data sheet is being supplied as it contains useful information on safe handling.
2.2 Label elements	No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.
2.3 Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Ecological & Toxicological information The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 3: Composition/information on ingredients	
3.1 Substance	Active Amino acid L-alpha- alanine Formula: C3H7NO2 CAS-No. 56-41-7 EC-No. 200-273-8

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	Paraffin wax CAS-No. 8002-74-2 EC-No. 232-315-6

Section 4: First Aid Measures	
4.1 Description of First Aid Measures	After inhalation of dust: remove exposed person to fresh air After skin contact: Wash off with soap under running water. After eye contact: Rinse out with water plenty of water. Removing contact lenses if worn. After swallowing: Drink up to 2 glasses of water & consult doctor if feeling unwell.
4.2 Most important symptoms and effects, both acute and delayed	There are no known symptoms or effects listed.
4.3 Indication of any immediate medical attention and special treatment needed	Treat symptomatically.

Section 5: Firefighting Measures	
5.1 Extinguishing media	Water, CO2, Foam, or Powder
5.2 Special hazards arising from the substance or mixture	Carbon oxides Nitrogen oxides (NOx) Combustible. Fire may cause evolution of: nitrogen oxides and/ or the development of hazardous combustion gases or vapours possible in the event of fire.
5.3 Advice for firefighters	As in any fire, wear self-contained breathing apparatus.
5.4 Further information	Suppress gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures	
6.1 Personal precautions, protective equipment and emergency procedures	Gloves should be worn when handing the alanine pellet directly to ensure product performance, rather than a PPE requirement. No PPE is required to handle the dosimeter when it's in tape tab format. Avoid the inhalation of dusts. Evacuate the area and observe emergency procedures.
6.2 Environmental precautions	Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up	Tape Tab: Sweep or pick up the product and put into its original box for reuse. Alanine Pellets: Sweep or use a dry-vacuum cleaner to collect the material. If the material is contaminated with dust, dirt, or other substances, it must be disposed of according to local regulations (see Section 13) rather than reused.

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6.4 Reference to other sections	None required

Section 7: Handling & Storage	
7.1 Precautions for safe handling	Alanine Pellets: Avoid contact with skin and eyes. Do not breath dust. Wash hands after handling the product. Minimize dust and accumulation. Do not ingest.
7.2 Conditions for safe storage, including any incompatibilities	Keep in a dry, cool and well-ventilated place, out of direct sunlight. Keep product boxes/ storage containers closed. Prior to use, store dosimeters at the same conditions at the dosimeter reader of 15-30°C. Incompatible materials: Strong oxidizing agents.
7.3 Specific end use(s)	Dispose of product and packaging in accordance with national regulations

Section 8: Exposure Controls / Personal Protection	
8.1 Control parameters	This product does not contain any hazardous materials with occupational exposure limits established by the regional specific regulatory bodies.
8.2 Exposure controls	None under normal use conditions.

Section 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties	Physical State: Solid pellet Colour: White Odour: Odourless Melting point: No data available Initial boiling point & boiling range: Not applicable Flammability (solid, gad): No data available Upper/ Lower flammability or explosive limits: No data available Flash Point: No data available Autoignition temperature: No data available Decomposition temperature: No data available pH: No data available Viscosity: No data available Water Solubility: No data available Partition Coefficient: No data available Vapor Pressure: No data available Density: No data available Relative Density: No data available Relative Vapour Density: No data available Particle Characteristics: No data available Explosive Properties: No data available Oxidising Properties: No data available
9.2 Other safety information	No protective equipment is needed under normal use conditions.

Section 10: Stability and Reactivity	
10.1 Reactivity	None know, based on information available
10.2 Chemical stability	Stable under normal conditions (room temperature).
10.3 Possibility of hazardous reactions	Combustible.

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10.4 Conditions to avoid	Avoid dust formation
10.5 Incompatible materials	Strong oxidizing agents
10.6 Hazardous decomposition products	Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

Section 11: Toxicological Information	
11.1 Information on toxicological effects	No Acute toxicity information is available for this product.
11.2 Additional Information	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. This is a non-essential amino acid that occurs in many forms in natural protein. No toxic effects are to be expected when the product is handled in routine use.

Section 12: Ecological information	
12.1 Toxicity	No Acute toxicity information is available for this product
12.2 Persistence and degradability	Persistence is unlikely
12.3 Bioaccumulative potential	No information available
12.4 Mobility in soil	Will likely be mobile in the environment due to its water solubility
12.5 Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 Other adverse effects	No information available

Section 13: Disposal Considerations	
13.1 Waste treatment methods	Dispose of product and packaging in accordance with national regulations. For tape tab, any PET film and cardboard packaging material can be recycled if required.

Section 14: Transport Information	
14.1 UN number	Not subject to transport regulations
14.2 UN proper shipping name	ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods

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14.3 Transport hazard class(es)	Not assigned
14.4 Packaging group	Not assigned
14.5 Environmental hazards	Non-hazardous product
14.6 Special precautions for user	Not classified as dangerous in the meaning of transport regulations.
14.7 Maritime transport in bulk according to IMO instruments	This product is not intended to be transported by sea in bulk containers.

Section 15: Regulatory Information	
15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
15.2 Chemical Safety Assessment	No chemical safety assessment has been carried out

Section 16: Other Information	
Further information	The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product about appropriate safety precautions. It does not represent any guarantee of the properties of the product. STERIS and its company Harwell Dosimeters Limited shall not be held liable for any damage resulting from handling or from contact with the above product. See the reverse side of Sales Orders for additional terms and conditions of sale. The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered.

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