

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 1 of 9

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

H-L-Arg-OH

**Further trade names**

L-Arginine

(2S)-2-Amino-5-(diaminomethylideneamino)pentanoic acid

(S)-2-Amino-5-[(aminoiminomethyl)amino]pentanoic acid

REACH Registration Number: 01-2119963927-19-XXXX

CAS No: 74-79-3

EC No: 200-811-1

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

Laboratory chemical. Manufacture of the substance.

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet**

Company name:	Iris Biotech GmbH	
Street:	Adalbert-Zoellner-Straße 1	
Place:	D-95615 Marktredwitz, Germany	
Post-office box:	568	
	D-95605 Marktredwitz, Germany	
Telephone:	+49 9231 97121 0	Telefax: +49 9231 97121 99
e-mail:	info@iris-biotech.de	
Contact person:	Compliance Department	Telephone: +49 9231 97121 0
e-mail:	sds@iris-biotech.de	
Internet:	www.iris-biotech.de	
Responsible Department:	Only available during office hours.	

**1.4. Emergency telephone number:** +49 (0)89 19240 (POISON CENTER Munich: 24 h)**Further Information**

This product does not meet the criteria for classification into a hazardous class according to Regulation (EC) No 1272/2008 on the classification, labeling and packaging of substances and mixtures. A safety data sheet is provided which does not fully comply with Article 31 and Annex II of REACH.

Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

This substance is not classified as hazardous in accordance with GB CLP Regulation.

**2.2. Label elements****GB CLP Regulation****Precautionary statements**

P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 2 of 9

protection.

**Additional advice on labelling**

Warning - substance not yet tested completely.

**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.

**SECTION 3: Composition/information on ingredients****3.1. Substances****Chemical characterization**

(2S)-2-Amino-5-(diaminomethylideneamino)pentanoic acid

Sum formula: C<sub>6</sub>H<sub>14</sub>N<sub>4</sub>O<sub>2</sub>

Molecular weight: 174,2 g/mol

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

Provide fresh air. Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap.

In all cases of doubt, or when symptoms persist, seek medical advice.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person or a person with cramps.

In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

**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**

Co-ordinate fire-fighting measures to the fire surroundings. Water spray. alcohol resistant foam. Dry extinguishing powder. Carbon dioxide (CO<sub>2</sub>). Sand.

**Unsuitable extinguishing media**

High power water jet.

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 3 of 9

**5.2. Special hazards arising from the substance or mixture**

Non-flammable. Thermal decomposition can lead to the escape of irritating gases and vapours.  
In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>).

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Usual measures for fire prevention.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General measures**

Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid contact with skin, eyes and clothes.  
Wear personal protection equipment.  
In case of fire: Evacuate area.

**6.2. Environmental precautions**

Do not allow to enter into soil/subsoil.  
Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****Other information**

Take up mechanically. Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.  
Clear contaminated areas thoroughly.

**6.4. Reference to other sections**

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

Treat the recovered material as prescribed in the section on waste disposal.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Provide adequate ventilation.  
Avoid dust formation. Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid contact with skin, eyes and clothes.

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes. Provide adequate ventilation.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.  
Handle and store contents under inert gas. Protect from moisture.  
storage temperature: room temperature

**Hints on joint storage**

No special measures are necessary.

**7.3. Specific end use(s)**

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 4 of 9

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

**8.2. Exposure controls****Appropriate engineering controls**

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

**Skin protection**

Use of protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

**Environmental exposure controls**

Discharge into the environment must be avoided.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	white/ whitish
Odour:	No data available
Odour threshold:	not determined

**Test method****Changes in the physical state**

Melting point/freezing point:	222 °C	decomposition
Boiling point or initial boiling point and boiling range:	not determined	
Sublimation point:	not determined	
Softening point:	not determined	
Flash point:	No data available	

**Flammability**

Solid/liquid:	not flammable.
Gas:	not applicable

**Explosive properties**

No data available

Lower explosion limits:	not determined
Upper explosion limits:	not determined

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 5 of 9

Auto-ignition temperature:	not flammable.
<b>Self-ignition temperature</b>	
Solid:	not flammable.
Gas:	not applicable
Decomposition temperature:	222 °C
<b>Oxidizing properties</b>	
No data available	
pH-Value (at 20 °C):	11,4 (100 g/l)
Water solubility: (at 25 °C)	182 g/L soluble
<b>Solubility in other solvents</b>	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 25 °C)	< 0,1 hPa
Density:	1,1 g/cm <sup>3</sup>
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes**

Sustaining combustion: Not sustaining combustion

**Other safety characteristics**

Solvent content: No data available  
Solid content: not determined  
Evaporation rate: not determined

**Further Information**

electrolytic dissociation constant: 2,17 (20 °C).

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No data available

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No data available

**10.4. Conditions to avoid**

Protect from moisture.  
Keep away from heat.

**10.5. Incompatible materials**

Oxidizing agents, strong.

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to the escape of irritating gases and vapours.  
In case of fire may be liberated: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO). Nitrogen oxides (NO<sub>x</sub>).

**Further information**

In case of fire: See chapter 5.

**SECTION 11: Toxicological information**

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 6 of 9

**11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.

Acute toxicity (oral): LD50 - Rat - male + female: &gt; 5.110 mg/kg

Source: ECHA

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

Skin corrosion/irritation:

Skin - rabbit.

Result: No skin irritation - 4 h

(OECD 404)

Serious eye damage/eye irritation:

eyes - Rabbit.

Result: No eye irritation - 1 h

(OECD 405)

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Germ cell mutagenicity:

Germ cell mutagenicity Chromosomal aberrations mammalian cells

human lymphocytes

Result: negative

No indications of human germ cell mutagenicity exist.

Ames test negative.

Escherichia coli/ Salmonella typhimurium

OECD 471 (Ames test)

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

**Practical experience**

No data available

**11.2. Information on other hazards****Other information**

Repeated dose toxicity: - Rat - male + female - oral - 91 d

Health hazard: none - Dose: 3.130,9 - 3.565,1 mg/kg

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 7 of 9

Source: ECHA

**Further information**

RTECS: CF1934200

Caution! To the best of our knowledge the toxicological properties of this material have not been thoroughly investigated.

Handle in accordance with good industrial hygiene and safety practice.

**SECTION 12: Ecological information****12.1. Toxicity**Acute fish toxicity: semistatic - LC50 - Danio rerio (Zebrafish) - 2.800 mg/l - 96 h  
OECD 203**12.2. Persistence and degradability**Biological degradation: aerobic. - Exposure time 28 d  
Result: 100 % - Readily biodegradable (according to OECD criteria).  
(OECD 301C)**12.3. Bioaccumulative potential**

log Pow: -4,20 (20 °C) - No indication of bioaccumulation potential.

**12.4. Mobility in soil**

No data available

**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.

**12.7. Other adverse effects**

Warning - substance not yet tested completely.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**Dispose of waste according to applicable legislation.  
Consult the appropriate local waste disposal expert about waste disposal.  
Handle contaminated packages in the same way as the substance itself.**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Inland waterways transport (ADN)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Marine transport (IMDG)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**Air transport (ICAO-TI/IATA-DGR)****14.2. UN proper shipping name:** No dangerous good in sense of these transport regulations.**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Safety Data Sheet**

according to UK REACH Regulation

**H-L-Arg-OH**

Revision date: 29.05.2020

Product code: HAA1068

Page 8 of 9

**14.6. Special precautions for user**

No information available.

**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****EU regulatory information**

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

**National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

For this substance a chemical safety assessment has not been carried out.

**SECTION 16: Other information****Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%  
CLP: Classification, labelling and Packaging  
REACH: Registration, Evaluation and Authorization of Chemicals  
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
UN: United Nations  
CAS: Chemical Abstracts Service  
DNEL: Derived No Effect Level  
DMEL: Derived Minimal Effect Level  
PNEC: Predicted No Effect Concentration  
ATE: Acute toxicity estimate  
LL50: Lethal loading, 50%  
EL50: Effect loading, 50%  
EC50: Effective Concentration 50%  
ErC50: Effective Concentration 50%, growth rate  
NOEC: No Observed Effect Concentration  
BCF: Bio-concentration factor  
PBT: persistent, bioaccumulative, toxic  
vPvB: very persistent, very bioaccumulative  
RID: Regulations concerning the international carriage of dangerous goods by rail  
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)  
EmS: Emergency Schedules



## Safety Data Sheet

according to UK REACH Regulation

### H-L-Arg-OH

Revision date: 29.05.2020

Product code: HAA1068

Page 9 of 9

MFAG: Medical First Aid Guide

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

#### Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.