Safety Data Sheet

ZLEY®AF

Arginine Ferulate

Project number:
RF-SDS400802

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Safety Data Sheet according to GB/T16483,GB/T17519 Standard requirements

Part 1: Chemicals and corporate identity

Product name

Name of the chemical	Arginine Ferulate
Alias	None
Molecular formula	$C_{16}H_{24}N_4O_6$
Other identification methods	None
CAS No.	950890-74-1

Manufacturer, importer or supplier

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Part 2: Hazard overview

Classification of substances and mixtures Emergency overview.
Solid· Non-combustible.
Irritant to eyes.
May cause respiratory irritation. Irritant to skin

Hazard category	Skin corrosion/irritation category 2, severe eye damage/eye irritation category 2A, specific target organ toxicity one time exposure category 3

Label Elements

GHS pictogram	
Signal word	Warning

Hazard statement

H315	Cause skin irritation
H319	Cause severe eye irritation
H335	May cause respiratory irritation

Precautionary statement: preventive measures

P101	In case of medical treatment: please take with product container or label
P102	Keep out of reach of children
P103	Please read the label before use
P271	Can only be used outdoors or in a well-ventilated area

Precautionary statement: incident response

P305+P351+P338	In case of entering into the eyes: rinse cautiously with water for several minutes. If contact lenses are worn and can be removed easily, remove the contact lenses, and continue to rinse.
P312	In case you feel sick, call the detoxication center or call a doctor.
P337+P313	In case eye irritation persists: see a doctor/medical treatment
P307+p352	In case the skin is contaminated: wash with plenty of soap and water

Precautionary statement: safe storage

P405	The depository must be locked.
P403+P233	Store in a well-ventilated place, and keep the container closed.

Precautionary statement: disposal consideration

P501	The dispose of contents/container should be conducted in accordance with local regulations.

Physical and chemical hazards Solid Non-combustible

Health hazard Inhalation	The substance can cause respiratory tract irritation to some people, and the human body's response to the irritation will cause further lung injury. In case people with respiratory dysfunction, respiratory diseases such as emphysema or chronic tracheitis inhale high concentrations of particles, further loss of function may be caused. In case of previous circulatory or nervous system damage, or in case renal injury has been persistently existed, and excessive exposure is caused by treatment or use of the substance, those who may be exposed to greater risks should be screened appropriately.
Ingestion	The substance is not classified as "harmful if swallowed" according to EU directives or other classification systems, which is due to the lack of conclusive animal or human evidence. The ingestion of the substance can still cause harm to the health of individuals, especially to those with previous obvious organic damage (such as liver and kidney). Currently, harmful or toxic substances are generally defined on the basis of the dose that causes death but not on the basis of the dose that causes illness (disease and discomfort). Gastrointestinal tract discomfort may cause nausea and vomiting. However, the ingestion of trace of the substance in the workplace is not considered dangerous.
Skin contact	Some people's skin contact with this substance can lead to inflammation. The substance can exacerbate the original dermatitis disease. Skin contact is not considered to be able to cause effects harmful to health (classified in accordance with EU directive), but the substance may still cause health damage in case of entering the body through wounds, lesions or abrasions. Unhealed wounds, abraded or irritated skin should not be exposed to the substance. The entry into the body through wounds, lesions or abrasions may cause harmful effects of systemic injury. The skin should be examined before using the substance, and the substance can only be used after ensuring that any injury is properly protected.

Eyes	The substance can irritate and damage the eyes of some people.
Chronic	Long term exposure to respiratory irritants may lead to tracheal diseases, including expiratory dyspnea and related systemic diseases. Limited evidence suggests that repeated or long-term occupational exposure may contribute to cumulative health effects in relation to organs or biochemical systems.

Environmental hazards: please refer to Part 12.

Other hazardous nature.

Part 3: Component / composition information

Material

CAS number	Concentration or concentration range (mass fraction%)	Component
950890-74-1	100	Arginine Ferulate

Part 4: First aid measures

First aid

Eye contact	In case the eyes contact with this product: Rinse immediately with running water. Ensure that the eyes are thoroughly cleaned by lifting the upper and lower eyelids from time to time. In case the pain persists or relapses, see medical advice immediately, Contact lenses should only be removed by trained personnel after eye injury
Skin contact	In case of skin contact: Immediately remove all contaminated clothing, including shoes and socks; Rinse skin and hair with running water (use soap if possible); In case of irritation, seek medical advice.

Inhalation	If smoke or combustion products are inhaled, remove the patient from the contaminated area. Keep the patient lying flat. Pay attention to keep warm and rest. Remove prostheses such as dentures before starting first aid as far as possible to prevent from blocking the respiratory tract. In case of respirator arrest, artificial respiration should be carried out. It is better to use the artificial respirator with stop valve or bag valve mask or pocket mask, and cardiopulmonary resuscitation should be performed if necessary. Take the patient to hospital or seek medical service immediately.
Ingestion	Provide a glass of water immediately. First aid is usually not required. If there is any doubt, contact the Poisons Information Centre or contact a doctor.

Advice on protecting rescuers Special tips for doctors Symptomatic treatment.

Part 5: Fire protection measures

Fire extinguishing agent

There are no restrictions on the type of fire extinguishing agent. Use fire extinguishing media suitable for the surrounding environment.

Special hazard

Fire taboo	No data available.

Matters needing attention and protective measures for fire extinction

Fire-fighting measures	Notify the fire brigade, and inform it of the location and hazard characteristics of the accident. Wear respiratory equipment and protective gloves only in case of fire. Take all possible measures to prevent spillage from entering sewers or water courses. Use fire-fighting procedures suitable for the surrounding environment.

Fire/Explosion hazards	Non-combustible There is no major fire risk, however, the container may burn. May release toxic fumes

Part 6: Accidental release measures

Protective measures for operators, protective equipment and emergency disposal procedures: Please refer to Part 8.

Preventive measures to prevent from secondary disasters: Please refer to the above parts.

Environmental protection measures: Please refer to Part 12.

Internment, removal methods and used disposal materials of leaked chemicals

A small amount of leakage	Clean up all leakages immediately. Avoid inhalation of dust and avoid contact with skin and eyes. Wear protective clothing, gloves, safety goggles and dust masks, Use dry cleaning procedures to avoid the generation of dust.
A large amount of leakage	Moderate level hazard. Warning: notify all personnel in the area. Report to the emergency departments and inform them of the accident location and hazard characteristics. Wear protective clothes.

The recommendations for personal protective equipment are shown in Part 8 of the SDS.

Part 7: Operation disposal and storage

Matters needing attention for operation disposal

Safe operation	Prevent all contact, including inhalation. Wear protective clothing in case of exposure to the hazard. Use in a well-ventilated area. Prevent the product from gathering in low-lying areas.
Other information	Store in the original container. Keep the container safe and sealed. Store in a cool, dry and well ventilated place. Store in a lace away from incompatible materials and food containers.

Matters needing attention for storage

Proper container	Polyethylene or polypropylene containers. Check all containers to ensure that the labels are clear and there is no leakage.
Storage prohibition	No data available.

Part 8: Contact control and individual protection

Control parameters Occupational contact limits Compositional data: None.

Emergency restrictions

Ingredient	Name of the substance	TEEL-1	TEEL-1	TEEL-1
Arginine Ferulate	None	None	None	None

Contact control

Engineering control	Use engineering control to eliminate hazards, set up a barrier between workers and hazards. Well-designed engineering control can effectively protect workers, and usually can improve the protection level without being affected by the interaction between workers. The basic types of engineering control include: Reduce risks through process control changing operation activities or process flow mode. Close and/or isolate emission source, so as to physically isolate the target hazard and workers, as well as the ventilation system able to add a “add fresh air” and “get rid of dirty air” strategically in the workplace. In case the design is reasonable, the ventilation system can eliminate or reduce air pollution. The design of the ventilation system must be in accordance with the specific process and the chemicals or contaminants used. Employers may need to use multiple types of control measures to prevent employees from overexposure.
Personal protective equipment	
Eye and face protection	Safety glasses with side frame protection. Chemical goggle. Contact lenses may cause special hazards; soft contact lenses may absor and enrich irritants. Each workplace or work platform should formulate a written policy document on contact lens wear or use restrictions
Skin protection	Please refer to hand protection: below.
Hand/foot protection	Choose gloves tested according to relevant standards (such as European EN 374, US F739, AS/NZS2161.1 or national equivalent standards). In case of long-term contact or repeated contact, it is recommended to use gloves with IP grade of 5 or higher (the penetration time should be greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent standards). If it is expected to contact for only a short time, it is recommended to use gloves with IP grade of 3 or higher (penetration time should be greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent standards). The contaminated gloves should be replaced. Experience has shown that the following polymers as glove materials are suitable for the protection of undissolved, dry and abrasive free solids. Chloroprene rubber Nitrile rubber Butyl rubber Fluororubber Polyvinyl chloride Gloves should frequently be checked for wear and degradation.

Body protection	Please refer to other protection: below.
Other protection	Working clothes PVC (polyvinyl chloride) apron Protective cream Skin cleaning cream
Thermal hazard	None

Respiratory system protection
(AS/NZS year 1716 and 1715, ANSI Z88 EN 143:000 and 149:001, or equivalent to the state),
Respirators may be necessary to be used when engineering and management controls cannot effectively prevent exposure.
The use of respiratory protection should depend on professional advice and judgment, including the consideration of toxicological information, exposure measured data, frequency, and the possibility of worker exposure, so as to ensure that users are not subjected to high heat loads that may lead to heat stress or thermal fatigue as a result of personal protective equipment (a full filter with power assist and positive pressure can be selected).
Published occupational contact (exposure) limits, which may be mandatory by the government or recommended by the seller, will help to determine whether the selected respiratory protective equipment is effective enough.
When the part properly selected and as part of a complete respiratory protection measure system, certified respirators can effectively protect workers from inhalation of particulate matter.
When there is a considerable amount of dust in the air, use an approved positive pressure breathing mask.
Try to avoid conditions producing dust.

Part 9: Physicochemical properties

Basic physicochemical properties

Appearance	White to off white crystalline powder		
Physical state	Powder solid	Relative density (water=1)	None
Odor	Special light fragrance	Partition coefficient n-octyl alcohol/ water	None
Odor threshold	None	Autoignition temperature (vermin)	None
pH (by supply)	None	Decomposition temperature	None
Melting point/ freezing point (℃)	None	Viscosity (cSt)	Not applicable
Initial boiling, point and point range (℃)	None	Molecular weight (g/mol)	368.38
Flash point (℃)	None	Taste	None
Evaporation rate	None	Explosive property	None
Inflammability	Non-flammable	Oxidation property	None
Upper explosive limit (%)	None	Surface tension (dyn/cm ormN/m)	None
Lower explosive limit (%)	None	Volatility composition (%volume)	None
Vapor pressure (kPa)	None	Gas group	None
Vapor density (air = 1)	Not applicable	The pH value of the solution (1%)	None
Solubility in water (g / L)	None	VOC g/L	None

Part 10: Stability and reactivity

Reactivity	Please refer to part 7
Stability	Existence of incompatible substances. The substance is considered to be stable. Polymerization without the occurrence of hazards.
Hazardous reaction	Please refer to part 7
Conditions that should be avoided	Please refer to part 7
Prohibited substances	Please refer to part 7
Hazardous decomposition products	Please refer to part 5

Part 11: Toxicological information

Arginine Ferulate	Toxicity
	Not data available

Part 12: Ecological information

Ecotoxicity

No Data Available

Persistence and degradability

Component	Bioaccumulation
Arginine Ferulate	Low

Potential bioaccumulation

Component	Persistence: water/soil	Persistence: air
Arginine Ferulate	Low	Low

Mobility in soil

Component	Mobility
Arginine Ferulate	Low

Other adverse effects: No data available

Part 13: Disposal considerations

Disposal considerations

Waste chemicals:	Recycle as far as possible, or consult manufacturer about the relevant recyclable methods. Consult local waste management department about relevant disposal considerations methods. Bury the residues in the approved landfill. If possible, recycle the containers, or dispose wastes in the approved landfill.
Contaminated packaging	Please refer to the above parts.
Transportation precautions	Please refer to the above parts.

Part 14: Transport information

Packaging mark

Marine pollutants	None

Land transport (UN): not regulated as dangerous goods for transportation.
Air transport (ICAO-IATA /DG, 61th edition): not regulated as dangerous goods for transportation.
Maritime transport (IMDG-Code / GGVSee, 39-18): not regulated as dangerous goods for transportation.
Conduct bulk transportation according to Appendix 1 and IBC code of MARPOL: N/A.
Precautions for transportation: None.
Packing method: Please refer to Part 7.

Part 15: Regulatory information

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.
Safety, health and environmental regulations specific for the product in question

INCI	Chemical names	CAS No.	EC No.
Arginine Ferulate	3-(4-hydroxy-3-methoxyphenyl)-2-propenoate	950809-74-1	
European Inventory of Existing Commercial Substances (EINECS)			Not Listed
United States Toxic Substances Control Act (TSCA) Inventory			Not Listed
Inventory of Existing Chemical Substances in China (China IECSC)			Listed

Part 16: Other Information

Other information

(material) safety data sheet (SDS) is used as the communication tool of hazardous information,which should be used to assist in risk assessment.Many factors can be used to determine whether a hazard in the workplace or in other locations should be reported as dangerous.Risk can be determind by reference to exposure.The scale of use,frequency of use and existing.

Abbreviations and acronyms

PC-TWA: Permissible Concentration-Time Weighted Average refers to the average permissible exposure concentration of 8-hour working days and 40-hour working weeks regulated with the time as the weight.
PC-STEL: Permissible Concentration Short Term Exposure Limit refers to the concentration allowed to be exposed for a short time (15 min) under the premise of complying with PC-TWA.
IARC: International Agency for Research on Cancer.
ACGIH: American Conference of Government Industrial Hygienists
STEL: Short Term Exposure Limi.t
TEEL: Temporary Emergency Exposure Limit.
IDLH: Immediately Dangerous to Life or Heath Concentrations.
OSF: Odor Safety Factor.
NOAEL: No Observed Adverse Effect Level.
LOAEL: Lowest Observed Adverse Effect Level.
TLV: Threshold Limit Value
LOD: Limit of Detection.
OTV: Odour Threshold Value.