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1 Identification of substance:

Product details:

Product name: DL-o-Tyrosine

Stock number: L07065 Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc. 30 Bond Street

Ward Hill, MA 01835-8099 Emergency Phone: (978) 521-6300 CHEMTREC: (800) 424-9300

Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components: Chemical characterization:

2-hydroxyphenylalanine (CAS# 2370-61-8): 100%

Identification number(s): EINECS Number: 219-134-8

Description: (CAS#)

3 Hazards identification

Hazard description: Xi Irritant

Information pertaining to particular dangers for man and environment R 36/37/38 Irritating to eyes, respiratory system and skin.

Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) HEALTH

Health (acute effects) - 1 Flammability - I FIRE 1 Reactivity = 1 REACTIVITY 1

4 First aid measures

After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact

doctor.

Rinse opened eye for several minutes under running water. Then consult a

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After swallowing Seek immediate medical advice.

acc. to OSHA and ANSI

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards caused by the material, its products of combustion or

In case of fire, the following can be released: Carbon monoxide and carbon dioxide Nitrogen oxides (NOx)

Protective equipment:

Additional information:

Information for safe handling: Keep container tightly sealed.

No special requirements.

Not required.

followed.

Breathing equipment:

Protection of hands:

General Information

Change in condition

Ignition temperature:

Danger of explosion:

Explosion limits:

Lower:

Upper: Vapor pressure:

Density:

Decomposition temperature:

Form:

Odor:

Additional information: No data Personal protective equipment

General protective and hygienic measures

Avoid contact with the eyes and skin.

Eye protection: Safety glasses

Melting point/Melting range:

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Remove all soiled and contaminated clothing immediately.

Use suitable respirator when high concentrations are present.

Store away from oxidizing agents.

Keep container tightly sealed.

Wear self-contained respirator.

resulting gases:

5 Fire fighting measures

6 Accidental release measures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation Measures for environmental protection: Do not allow material to be released to the environment without proper governmental permits.

See Section 13 for disposal information.

Ensure good ventilation at the workplace.

See Section 7 for information on safe handling

Person-related safety precautions:

Wear fully protective impervious suit.

7 Handling and storage Handling

Measures for cleaning/collecting: Ensure adequate ventilation.

See Section 8 for information on personal protection equipment.

Information about protection against explosions and fires: Keep ignition sources away. Storage Requirements to be met by storerooms and receptacles:

Information about storage in one common storage facility:

Store in cool, dry conditions in well sealed containers.

Additional information about design of technical systems:

Store in cool, dry place in tightly closed containers.

Further information about storage conditions:

8 Exposure controls and personal protection

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Components with limit values that require monitoring at the workplace:

The usual precautionary measures for handling chemicals should be

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Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Impervious gloves Check protective gloves prior to each use for their proper condition. Material of gloves The selection of suitable gloves not only depends on the material, but

also on quality. Quality will vary from manufacturer to manufacturer.

Body protection: Protective work clothing. 9 Physical and chemical properties:

Powder

Not determined

263°C (505°F)

Not determined

Not determined

Not determined

Not determined

Not determined

Not determined

explosion hazard.

Product does not present an

Boiling point/Boiling range: Not determined Sublimation temperature / start: Not determined Flash point: Not applicable

10 Stability and reactivity Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Materials to be avoided: Oxidizing agents (Contd. on page 4) Page 4/5 Material Safety Data Sheet acc. to OSHA and ANSI Reviewed on II/II/2008

None Air transport ICAO-TI and IATA-DGR: ICAO/IATA Class: None

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15 Regulations

Hazard symbols: Xi Irritant Risk phrases:

Product name: DL-o-Tyrosine Transport/Additional information: Not dangerous according to the above specifications.

Product related hazard informations:

and seek medical advice.

37 Wear suitable gloves. National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. Some or all of the components of this product are not listed on the

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Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic

26 In case of contact with eyes, rinse immediately with plenty of water

36/37/38 Irritating to eyes, respiratory system and skin.

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process, is the responsibility of the user. Contact: Paul V. Connolly

Substances List (NDSL) . Information about limitation of use: For use only by technically qualified individuals. 16 Other information: Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or Department issuing MSDS: Health, Safety and Environmental Department.

Printing date II/II/2008 Product name: DL-o-Tyrosine (Contd. of page 3) Dangerous reactions No dangerous reactions known Dangerous products of decomposition: Carbon monoxide and carbon dioxide Nitrogen oxides 11 Toxicological information Acute toxicity: Primary irritant effect: on the skin: Irritant to skin and mucous membranes. on the eye: Irritating effect. Sensitization: No sensitizing effects known. Subscute to chronic toxicity: Other than potential irritation (see above), no information on illness or injury to humans from acute or chronic exposure to this product is Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. 12 Ecological information: General notes: Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Do not allow material to be released to the environment without proper governmental permits. 13 Disposal considerations Product: Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 14 Transport information Not a hazardous material for transportation. DOT regulations: Hazard class: None Land transport ADR/RID (cross-border) ADR/RID class: None Maritime transport IMDG: IMDG Class: