Printing date II/I0/2008 Reviewed on 11/10/2008

1 Identification of substance: Product details:

Product name: Farnesol Stock number:

A19316 L05252

Emergency information:

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

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300. 2 Composition/Data on components:

3,7,11-trimethyldodeca-2,6,10-trien-1-ol (CAS# 4602-84-0): 100% Identification number(s):

EINECS Number: 225-004-1

Chemical characterization:

Description: (CAS#)

3 Hazards identification Hazard description: Not applicable

Information pertaining to particular dangers for man and environment Not applicable Classification system HMIS ratings (scale 0-4)

Health (acute effects) - I FIRE 1

Flammability - I Reactivity - I REACTIVITY 1

(Hazardous Materials Identification System)

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

Rinse opened eye for several minutes under running water. Then consult a doctor. (Contd. on page 2)

Printing date II/10/2008

Product name: Farnesol

Page 2/5 Material Safety Data Sheet acc. to OSHA and ANSI

Carbon dioxide, extinguishing powder or water spray. Fight larger fires

Do not allow material to be released to the environment without proper

Reviewed on II/I0/2008

(Contd. of page 1)

with water spray or alcohol resistant foam. Special hazards caused by the material, its products of combustion or resulting gases: In case of fire, the following can be released:

Wear self-contained respirator.

Carbon monoxide and carbon dioxide

Person-related safety precautions:

Measures for environmental protection:

Ensure adequate ventilation

universal binders, sawdust). Additional information:

Information for safe handling: Keep container tightly sealed.

Suitable extinguishing agents

5 Fire fighting measures

After swallowing Seek medical treatment.

Wear fully protective impervious suit. 6 Accidental release measures

Protective equipment:

governmental permits. Measures for cleaning/collecting: Absorb with liquid-binding material (sand, diatomite, acid binders,

Wear protective equipment. Keep unprotected persons away.

See Section 13 for disposal information. 7 Handling and storage

See Section 7 for information on safe handling

Store in cool, dry place in tightly closed containers. No special precautions are necessary if used correctly. Information about protection against explosions and fires: Keep ignition sources away.

Requirements to be met by storerooms and receptacles:

Information about storage in one common storage facility:

See Section 8 for information on personal protection equipment.

Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers.

Printing date II/I0/2008

Product name: Farnesol

Not required.

Breathing equipment:

Protection of hands:

Form:

Odor:

Color:

Ignition temperature:

Danger of explosion:

Printing date II/I0/2008

10 Stability and reactivity

11 Toxicological information

Primary irritant effect:

Oral LD50 7400 mg/kg (mouse)

Subacute to chronic toxicity: Subacute to chronic toxicity:

Behavioral - antipsychotic.

substance is not fully known.

12 Ecological information:

governmental permits.

Product:

Recommendation

13 Disposal considerations

6 gm/kg (rat)

Sensitization: No sensitizing effects known.

following effects in laboratory animals:

Additional toxicological information:

Other information (about experimental toxicology):

Behavioral - sommolence (general depressed activity).

Mutagenic effects have been observed on tests with insects.

To the best of our knowledge the acute and chronic toxicity of this

No classification data on carcinogenic properties of this material is

Consult state, local or national regulations to ensure proper disposal.

Material Safety Data Sheet acc. to OSHA and ANSI

on the skin: May cause irritation on the eye: May cause irritation

Product name: Farnesol

specifications.

Acute toxicity:

Decomposition temperature:

Additional information: No data

No special requirements.

Handling

Storage

Store away from oxidizing agents.

8 Exposure controls and personal protection

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Additional information about design of technical systems:

Remove all soiled and contaminated clothing immediately.

Use suitable respirator when high concentrations are present.

Material Safety Data Sheet acc. to OSHA and ANSI

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Components with limit values that require monitoring at the workplace:

(Contd. of page 2)

Reviewed on 11/10/2008

Page 3/5

(Contd. on page 3)

Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be

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

Eye protection: Safety glasses

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

Liquid

Colorless

Not determined

Not determined

Not determined

explosion hazard.

Product does not present an

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

Change in condition Melting point/Melting range: Not determined Boiling point/Boiling range: 148-150°C (298-302°F) (4mm Hg) Sublimation temperature / start: Not determined 96°C (205°F) Flash point:

Explosion limits: Lowers Not determined Not determined Upper: Not determined Vapor pressure: Density at 20°C (68°F): 0.88 g/cm<sup>3</sup> (Contd. on page 4)

Material Safety Data Sheet acc. to OSHA and ANSI

Thermal decomposition / conditions to be avoided:

Dangerous reactions No dangerous reactions known

LD/LC50 values that are relevant for classification:

Materials to be avoided: Oxidizing agents

Decomposition will not occur if used and stored according to

Dangerous products of decomposition: Carbon monoxide and carbon dioxide

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the

Page 4/5

Reviewed on II/I0/2008

(Contd. of page 3)

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

available from the EPA, IARC, NTP, OSHA or ACGIH.

Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

Product name: Farnesol

14 Transport information

Printing date II/I0/2008

DOT regulations:

(Contd. of page 4)

Reviewed on 11/10/2008

ADR/RID class: None Maritime transport IMDG: IMDG Class: None Air transport ICAO-TI and IATA-DGR: ICAO/IATA Class: None

Not a hazardous material for transportation.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use:

16 Other information:

Contact: Paul V. Connolly

information gathered by them, and should make independent judgement of

process, is the responsibility of the user. Department issuing MSDS: Health, Safety and Environmental Department.

Page 5/5

(Contd. on page 5)

Employers should use this information only as a supplement to other

a individuale

Observe the general safety regulations when handling chemicals National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance

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

Hazard class: None Land transport ADR/RID (cross-border) Transport/Additional information: Not dangerous according to the above specifications. 15 Regulations Product related hazard informations: