**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1. Product identifier
   - Trade name: N-(1-Naphthyl)ethylene diamine dihydrochloride
   - Stock number: A17164
   - CAS Number: 1465-25-4
   - EC number: 215-981-2

1.2 Relevant identified uses of the substance or mixture and uses advised against.
   - Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
   - Manufacturer/Supplier: Thermo Fisher (Kandel) GmbH
     Zeppelinstr. 7b
     76185 Karlsruhe / Germany
     Tel: +49 (0) 721 84007 280
     Fax: +49 (0) 721 84007 300
     Email: tech@alfa.com
     www.alfa.com
   - Informing department: Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:
   - CareChem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
   - Poison Information Center Mainz: www.gifinfo.uni-mainz.de Telephone: +49(0)6131/19240

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**SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture
   - Classification according to Regulation (EC) No 1272/2008
     - GHS07
       - Skin Irrit. 2 H315 Causes skin irritation.
       - Eye Irrit. 2 H319 Causes serious eye irritation.
       - STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements
   - Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.
     - Hazard pictograms
       - GHS07

   - Signal word: Warning
   - Hazard statements:
     - H315 Causes skin irritation.
     - H319 Causes serious eye irritation.
     - H335 May cause respiratory irritation.
   - Precautionary statements:
     - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
     - P280 Wear protective gloves / eye protection / face protection.
     - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
     - P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
     - P405 Store locked up.
     - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
   - Results of PBT and vPvB assessment
     - PBT: Not applicable.
     - vPvB: Not applicable.

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**SECTION 3: Composition/information on ingredients**

3.1 Substances
   - CAS# Designation: 1465-25-4 N-(1-Naphthyl)ethylene diamine dihydrochloride
   - Concentration: ≤ 100%
   - Identification number(s):
     - EC number: 215-981-2

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**SECTION 4: First aid measures**

4.1 Description of first aid measures
   - After inhalation
     - Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
     - Seek immediate medical advice.
   - After skin contact
     - Instantly 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 doctor.
   - After swallowing
     - Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed
   - Causes skin irritation.
   - Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed
   - No further relevant information available.

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**SECTION 5: Firefighting measures**

5.1 Extinguishing media
   - Suitable extinguishing agents: CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
   - If this product is involved in a fire, the following can be released:
     - Carbon monoxide and carbon dioxide
     - Nitrogen oxides (NOx)

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(Contd. on page 2)
Trade name N-(1-Naphthyl)ethylenediamine dihydrochloride

Hydrogen chloride (HCl)

5.3 Advice for firefighters
Protective equipment:
Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

6.2 Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.

6.3 Methods and material for containment and cleaning up;
Ensure adequate ventilation.

Prevention of secondary hazards:
No special measures required.

6.4 Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:
No information known.

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers:
No special requirements.

Information about storage in one common storage facility:
Store away from oxidising agents.
Store in the dark.
Store away from water.

Further information about storage conditions:
This product is hygroscopic.
Store under dry inert gas.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Protect from the effects of light.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information:
No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Immediately remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment:
Use breathing protection with high concentrations.
Recommended filter device for short-term use:
Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls.
Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves:
Nitrile rubber, NBR

Penetration time of glove material (in minutes)
Not determined

Eye protection:
Safety glasses with side shields / NIOSH (US) or EN 166 (EU)

Body protection:
Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information

Appearance:
Powder
Odour:
Not determined

pH-value:
Not applicable.

Change in condition
Melting point/freezing point:
191-199 °C

Sublimation temperature / start:
Not determined

Inflammability (solid, gaseous):
Not determined.

Ignition temperature:
Not determined

Decomposition temperature:
Not determined

Self-inflammability:
Not determined

Explosive properties:
Not determined.

Critical values for explosion:
Lower:
Not determined
Upper:
Not determined
Steam pressure:
Not applicable.
Density:
Not determined.
Trade name: N-(1-Naphthyl)ethylenediamine dihydrochloride

SECTION 10: Stability and reactivity

10.1 Reactivity No information known.
10.2 Chemical stability Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions No dangerous reactions known.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials: Oxidizing agents, water/moisture, light.
10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide, nitrogen oxides (NOx), hydrogen chloride (HCl).

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.
LD/LC50 values that are relevant for classification: No data.
Skin irritation or corrosion: Causes skin irritation.
Eye irritation or corrosion: Causes serious eye irritation.
Respiratory or skin sensitization: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: May cause respiratory irritation.
Aspiration hazard: No effects known.
Subacute to chronic toxicity: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: No further relevant information available.
12.2 Persistence and degradability: No further relevant information available.
12.3 Bioaccumulative potential: No further relevant information available.
12.4 Mobility in soil: No further relevant information available.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation: Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number: ADR, ADN, IMDG, IATA: Not applicable.
14.2 UN proper shipping name ADR, ADN, IMDG, IATA: Not applicable.
14.3 Transport hazard class(es) ADR, ADN, IMDG, IATA: Not applicable.
Class: Not applicable.
Packing group ADR, IMDG, IATA: Not applicable.
14.5 Environmental hazards: Not applicable.
14.6 Special precautions for user: Not applicable.
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.
UN "Model Regulation": Not applicable.
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances: Substance is listed.
Standard for the Uniform Scheduling of Medicines and Poisons: Substance is not listed.

Directive 2012/18/EU
Named dangerous substances - ANNEX I: Substance is not listed.

National regulations
Information about limitation of use:
Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Classification according to VbF: Not applicable

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

Other regulations, limitations and prohibitive regulations

ELINCS (European List of Notified Chemical Substances): Substance is not listed.

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use): Substance is not listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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 Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)

LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety and Health Administration (USA)

TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
BEL: Biological Exposure Limit
BEI: Biological Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT Se 3: Specific target organ toxicity (single exposure) – Category 3

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