

Safety Data Sheet

Australia

Section 1. Identification

Product name **Thiol Coupling Kit**

Catalogue Number **BR100557**



Chemical product name N'-(ethylcarbonimidoyl)-N,N-dimethylpropane-1,3-diamine monohydrochloride

Synonyms 1,3-Propanediamine, N3-(ethylcarbonimidoyl)-N1,N1-dimethyl-, hydrochloride (1:1); 1,3-Propanediamine, N'-(ethylcarbonimidoyl)-N,N-dimethyl-, monohydrochloride; N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydro chloride; N-[3-(dimethylamino)propyl]-N'-ethylcarbodiimide hydrochloride; Carbodiimide, (3-dimethylaminopropyl)ethyl-, monohydrochloride; 1-Ethyl-3-(3'-dimethylaminopropyl)carbodiimide hydrochloride; N,N-Dimethyl(4,6-diazaocta-4,5-dien-1-yl)amine monohydrochloride; N3-(Ethylcarbonimidoyl)-N1,N1-dimethyl-1,3-propanediamine, hydrochloride (1:1); 3-(ethyliminomethylideneamino)-N,N-dimethylpropan-1-amine hydrochloride

Product type Solid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Analytical chemistry.
Laboratory chemicals
Scientific research and development

Company details

Manufacturer

Cytiva
Amersham Place
Little Chalfont
Buckinghamshire
HP7 9NA United Kingdom
+44 1494 508000

Supplier

Global Life Sciences Solutions Australia Pty Ltd
495 Blackburn Road
Mount Waverley VIC 3149
Australia
tfn: 1800 150 522

Emergency telephone number **000** and +61 2 9846 4000

Section 2. Hazard(s) identification

Classification of the substance or mixture ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 3
SKIN CORROSION/IRRITATION - Category 2
SKIN SENSITISATION - Category 1

GHS label elements

Hazard pictograms



Signal word

⚠ DANGER

Hazard statements

⚠ Harmful if swallowed.
Toxic in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.



| Precautionary statements | |
|--|--|
| Prevention | Wear protective gloves and protective clothing. Avoid breathing dust. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. |
| Response | IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. Take off immediately all contaminated clothing and wash it before reuse. |
| Storage | Not applicable. |
| Disposal | Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label elements | Not applicable. |
| Other hazards which do not result in classification | None known. |

Section 3. Composition and ingredient information

| | | |
|---|--|----------------------------------|
| Substance/mixture | Substance | |
| Chemical identity | N'-(ethylcarbonimidoyl)-N,N-dimethylpropane-1,3-diamine monohydrochloride | |
| Other means of identification | 1,3-Propanediamine, N3-(ethylcarbonimidoyl)-N1,N1-dimethyl-, hydrochloride (1:1); 1,3-Propanediamine, N'-(ethylcarbonimidoyl)-N,N-dimethyl-, monohydrochloride; N-(3-Dimethylaminopropyl)-N'-ethylcarbodiimide hydro chloride; N-[3-(dimethylamino)propyl]-N'-ethylcarbodiimide hydrochloride; Carbodiimide, (3-dimethylaminopropyl)ethyl-, monohydrochloride; 1-Ethyl-3-(3'-dimethylaminopropyl)carbodiimide hydrochloride; N,N-Dimethyl(4,6-diazaocta-4,5-dien-1-yl)amine monohydrochloride; N3-(Ethylcarbonimidoyl)-N1,N1-dimethyl-1,3-propanediamine, hydrochloride (1:1); 3-(ethyliminomethylideneamino)-N,N-dimethylpropan-1-amine hydrochloride | |
| Ingredient name | % (w/w) | Identifiers |
| N'-(ethylcarbonimidoyl)-N,N-dimethylpropane-1,3-diamine monohydrochloride | 100 | CAS: 25952-53-8 EC: 247-361-2 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

| | |
|---------------------|---|
| Eye contact | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Skin contact | Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

| | |
|---------------------|--|
| Eye contact | No known significant effects or critical hazards. |
| Inhalation | No known significant effects or critical hazards. |
| Skin contact | Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. |
| Ingestion | Harmful if swallowed. |



Over-exposure signs/symptoms

| | |
|---------------------|--|
| Eye contact | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | No specific data. |
| Skin contact | Adverse symptoms may include the following: irritation redness |
| Ingestion | No specific data. |

Indication of immediate medical attention and special treatment needed, if necessary

| | |
|-----------------------------------|---|
| Notes to physician | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | No specific treatment. |
| Protection of first-aiders | No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

See toxicological information (Section 11)

Section 5. Firefighting measures**Extinguishing media**

| | |
|---|---|
| Suitable extinguishing media | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | None known. |
| Specific hazards arising from the chemical | No specific fire or explosion hazard. |
| Hazardous thermal decomposition products | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds |
| Special protective actions for fire-fighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

Section 6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

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|------------------------------------|---|
| For non-emergency personnel | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| For emergency responders | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| Environmental precautions | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

Methods and material for containment and cleaning up

| | |
|--------------------|--|
| Small spill | Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. |
| Large spill | Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. |



Section 7. Handling and storage

Precautions for safe handling

| | |
|---|--|
| Protective measures | Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| Advice on general occupational hygiene | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| Conditions for safe storage, including any incompatibilities | Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. |

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

| | |
|---|--|
| Appropriate engineering controls | Good general ventilation should be sufficient to control worker exposure to airborne contaminants. |
| Environmental exposure controls | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

Individual protection measures

| | |
|-------------------------------|--|
| Hygiene measures | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. |
| Skin protection | |
| Hand protection | Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Other skin protection | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |



Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

| | |
|--|---------------------------------|
| Physical state | Solid. |
| Colour | White. |
| Odour | Odourless. |
| Odour threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | 111 to 113°C (231.8 to 235.4°F) |
| Boiling point or initial boiling point and boiling range | Not available. |
| Flash point | Not applicable. |
| Burning time | Not available. |
| Burning rate | Not available. |
| Evaporation rate | Not available. |
| Flammability | Not available. |
| Lower and upper explosive (flammable) limits | Not applicable. |
| Vapour pressure | Not available. |
| Relative vapour density | Not applicable. |
| Relative density | Not available. |
| Solubility(ies) | |

| | Media | Result |
|--|--|----------------|
| | cold water | Easily soluble |
| Solubility in water | Not available. | |
| Partition coefficient: n-octanol/water | Not available. | |
| Auto-ignition temperature | Not applicable. | |
| Decomposition temperature | Not available. | |
| SADT | Not available. | |
| Viscosity | Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available. | |
| Flow time (ISO 2431) | Not available. | |
| Molecular weight | 191.74 g/mole | |
| Particle characteristics | | |
| Median particle size | Not available. | |

Section 10. Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | The product is stable. |
| Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | No specific data. |
| Incompatible materials | No specific data. |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

| | |
|------------------------------|----------------|
| Conclusion/Summary [Product] | Not available. |
|------------------------------|----------------|

Skin corrosion/irritation

Not available.

| | |
|------------------------------|----------------|
| Conclusion/Summary [Product] | Not available. |
|------------------------------|----------------|



Serious eye damage/eye irritation

Not available.

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Respiratory corrosion/irritation

Not available.

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Respiratory or skin sensitization

Not available.

Skin

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Respiratory

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Germ cell mutagenicity

Not available.

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Carcinogenicity

Not available.

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Reproductive toxicity

Not available.

| | |
|---|----------------|
| Conclusion/Summary [Product] | Not available. |
|---|----------------|

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)



Not available.

Aspiration hazard

Not available.

| | |
|---|--|
| Information on likely routes of exposure | Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. |
|---|--|

Potential acute health effects

| | |
|---------------------|--|
| Eye contact | No known significant effects or critical hazards. |
| Inhalation | No known significant effects or critical hazards. |
| Skin contact |  Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction. |
| Ingestion |  Harmful if swallowed. |

Symptoms related to the physical, chemical and toxicological characteristics



| | |
|--------------|--|
| Eye contact | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | No specific data. |
| Skin contact | Adverse symptoms may include the following: irritation redness |
| Ingestion | No specific data. |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|----------------------------------|---|
| Short term exposure | |
| Potential immediate effects | Not available. |
| Potential delayed effects | Not available. |
| Long term exposure | |
| Potential immediate effects | Not available. |
| Potential delayed effects | Not available. |
| Potential chronic health effects | |
| Not available. | |
| Conclusion/Summary [Product] | Not available. |
| General | Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| Reproductive toxicity | No known significant effects or critical hazards. |

Numerical measures of toxicity

| | | | | | |
|--|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| Acute toxicity estimates | | | | | |
| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
| N-(ethylcarbonimidoyl)-N,N-dimethylpropane-1,3-diamine monohydrochloride | 500 | 300 | N/A | N/A | N/A |

Section 12. Ecological information

Toxicity

| | |
|-----------------------------|----------------|
| Not available. | |
| Conclusion/Summary[Product] | Not available. |

Persistence and degradability

| | |
|-----------------------------|----------------|
| Not available. | |
| Conclusion/Summary[Product] | Not available. |

Bioaccumulative potential

| | |
|----------------|--|
| Not available. | |
|----------------|--|

Mobility in soil

| | |
|----------------------------------|---|
| Soil/water partition coefficient | 2.8901 Koc |
| Other adverse effects | No known significant effects or critical hazards. |









Section 13. Disposal considerations

Disposal methods

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | ADG | ADR/RID | IMDG | IATA |
|-------------------------------|---|---|--|---|
| UN number | UN2811 | UN2811 | UN2811 | UN2811 |
| Proper shipping name | Toxic solid, organic, n.o.s. (N'-(ethylcarbonimidoyl)-N, N-dimethylpropane-1,3-diamine monohydrochloride) | Toxic solid, organic, n.o.s. (N'-(ethylcarbonimidoyl)-N, N-dimethylpropane-1,3-diamine monohydrochloride) | Toxic solid, organic, n.o.s. (N'-(ethylcarbonimidoyl)-N, N-dimethylpropane-1,3-diamine monohydrochloride). Marine pollutant (N'-(ethylcarbonimidoyl)-N, N-dimethylpropane-1,3-diamine monohydrochloride) | Toxic solid, organic, n.o.s. (N'-(ethylcarbonimidoyl)-N, N-dimethylpropane-1,3-diamine monohydrochloride) |
| Class | 6.1 | 6.1 | 6.1 | 6.1 |
| Label |  |   |   |  |
| PG | III | III | III | III |
| Environmental hazards | Yes. The environmentally hazardous substance mark is not required. | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| Additional information | - | The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Tunnel code (E) | The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. | The environmentally hazardous substance mark may appear if required by other transportation regulations. |

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments

Not available.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.



Inventory list

| | |
|------------------|---|
| Australia | This material is listed or exempted. |
| United States | This material is active or exempted. |
| Canada inventory | This material is listed or exempted. |
| China | This material is listed or exempted. |
| Japan | Japan inventory (CSCL): This material is listed or exempted. Japan inventory (ISHL): Not determined. |
| New Zealand | This material is listed or exempted. |

Section 16. Any other relevant information

History

| | | | |
|---|------------------|------------------------|------------------|
| Date of printing | 09 February 2026 | Date of previous issue | 05 February 2024 |
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| sds_author@cytiva.com | | | |
| ADG = Australian Dangerous Goods | | | |
| ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road | | | |
| ATE = Acute Toxicity Estimate | | | |
| BCF = Bioconcentration Factor | | | |
| GHS = Globally Harmonized System of Classification and Labelling of Chemicals | | | |
| IATA = International Air Transport Association | | | |
| IBC = Intermediate Bulk Container | | | |
| IMDG = International Maritime Dangerous Goods | | | |
| LogPow = logarithm of the octanol/water partition coefficient | | | |
| MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) | | | |
| N/A = Not available | | | |
| SUSMP = Standard Uniform Schedule of Medicine and Poisons | | | |
| UN = United Nations | | | |

Procedure used to derive the classification

| Classification | Justification |
|--|-----------------|
| ACUTE TOXICITY (oral) - Category 4 | Regulatory data |
| ACUTE TOXICITY (dermal) - Category 3 | Regulatory data |
| SKIN CORROSION/IRRITATION - Category 2 | Regulatory data |
| SKIN SENSITISATION - Category 1 | Regulatory data |
| Indicates information that has changed from previously issued version. | |

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

