

DN-3304-D
Version: 2013Cap A
Revision: 2022

MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Capping Solution A**
Chemical Name /Combination 16% N-Methylimidazole/ 84% Acetonitrile, v/v
Catalog Number: **DN-3304-D**
Synonym/Trade Name: DNA Synthesis Cap A Reagent, NMI/ ACN Solution, CAP A
Product Use Description Laboratory Use
Manufacturer or supplier's ChemGenes India Pvt. Ltd
207, Regency Plaza, 5-Park Road
Lucknow-226 001,U.P, India,
Ph: +91 86874 21036,
Email: info@chemgenesindia.com

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component: N-MethylImidazole
CAS#: 616-47-7
EC # (EINECS): 210-484-7
Percentage: 16%
M.W.: 82.11

Component: Acetonitrile
CAS#: 75-05-8
EC # (EINECS): N/A
Percentage: 84%
M.W.: 41.05

SECTION 3. HAZARDS IDENTIFICATION

Symbol(s) :



Fire=1 Reactivity=0
EC Classification: N/A

Emergency Overview

Form : liquid, clear
Color : colourless

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Odor : ether-like

Classification of the substance or mixture

Flammable liquids, Category 2,
Acute toxicity, Category 4,
Oral Skin corrosion, Category 1B
Serious eye damage, Category 1,
Specific target organ toxicity - single exposure,
Category 1, Central nervous system, Respiratory system, Specific target organ toxicity -
repeated exposure,
Category 2, Central nervous system, Respiratory system, Kidney, Blood, Liver GHS Label
elements, including precautionary statements

Signal word: Danger

Hazard statements: Highly flammable liquid and vapour. Harmful if swallowed. Causes
severe skin burns and eye damage. Causes damage to organs. May cause damage to
organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed. Ground/bond container and receiving equipment. Use
explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools.
Take precautionary measures against static discharge. Do not breathe dust/ fume/ gas/
mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke
when using this product. Wear protective gloves/ eye protection/ face protection.

Response:

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/
Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for
breathing.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing, Immediately call a
POISON CENTER or doctor/ physician. Wash contaminated clothing before reuse. In case of
fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity: No component of this product present at levels greater than or equal to
0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

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SECTION 4. FIRST AID MEASURES

Inhalation: Call a physician immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present.

Skin contact: Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician immediately.

Notes to physician

Treatment: Treat as cyanide poisoning. Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media:

Carbon dioxide (CO₂) Dry chemical, Alcohol-resistant foam, Cool closed containers exposed to fire with water spray.

Unsuitable extinguishing media:

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during firefighting:

Flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. In case of fire hazardous decomposition products may be produced such as: Hydrogen cyanide (hydrocyanic acid) Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

Special protective equipment: Wear self-contained breathing apparatus and protective suit. for firefighters

Flash point: 43F (6°C) Method: closed cup

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear personal protective equipment. Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of

Do not get in eyes, on skin, or on clothing.

Environmental precautions:

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Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Do not allow run-off from fire fighting to enter drains or water courses.

Methods for cleaning up:

Ventilate the area. No sparking tools should be used. Use explosion-proof equipment. Contain and collect spillage with non Combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Handling:

Wear personal protective equipment.

Use only in well-ventilated areas. Keep container tightly closed.

Do not smoke.

Do not swallow.

Do not breathe vapours or spray mist.

Do not get in eyes, on skin, or on clothing.

Advice on protection :

Keep away from fire, sparks and heated surfaces. against fire and explosion

Take precautionary measures against static discharges. Ensure all equipment is electrically grounded before beginning transfer operations. Use explosion-proof equipment. Keep product and empty container away from heat and sources of ignition. No sparking tools should be used. No smoking.

Storage Requirements for storage:

Store in area designed for storage of flammable liquids.

Areas and containers

Protect from physical damage.

Keep containers tightly closed in a dry, cool and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Keep away from heat and sources of ignition. Keep away from direct sunlight.

Store away from incompatible substances. Container hazardous when empty.

Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures:

Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures:

Use with local exhaust ventilation.

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Prevent vapour buildup by providing adequate ventilation during and after use.

Eye protection:

Do not wear contact lenses.

Wear as appropriate:

Safety glasses with side-shields

If splashes are likely to occur, wear:

Goggles or face shield, giving complete protection to eyes

Hand protection:

Solvent-resistant gloves

Gloves must be inspected prior to use. Replace when worn.

Skin and body protection:

Wear as appropriate:

Solvent-resistant apron

Flame retardant antistatic protective clothing If splashes are likely to occur, wear: Protective suit

Respiratory protection:

In case of insufficient ventilation wear suitable respiratory equipment.

For rescue and maintenance work in storage tanks use self- contained breathing apparatus.

Use NIOSH approved respiratory protection.

Hygiene measures:

When using, do not eat, drink or smoke.

Wash hands before breaks and immediately after handling the product.

Keep working clothes separately.

Remove and wash contaminated clothing before re-use.

Do not swallow.

Do not breathe vapours or spray mist.

Do not get in eyes, on skin, or on clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid, clear
Color : colourless
Odor : ether-like
pH : Note: not applicable
Melting point/freezing point : -43.8 °C

Note: The physical data is that of the main component.

Boiling point/boiling range: 86.6 °C

Note: The physical data is that of the main component.

Flash point: 43F (6 °C) Method: closed cup

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Note: The physical data is that of the main component.

Lower explosion limit : 3 %(V)
Upper explosion limit : 16 %(V)
Vapor pressure : 97.3 hPa at 20 °C(68 °F)

Note: The physical data is that of the main component.

Vapor density: 1.42 Note: (Air = 1.0)
Density: 0.827 g/cm³ at 20 °C
Water solubility : completely soluble
Ignition temperature : 524 °C

SECTION 10. STABILITY AND REACTIVITY

Chemical stability : Stable under normal conditions.

Possibility of hazardous: Hazardous polymerisation does not occur. reactions
Conditions to avoid : Heat, flames and sparks.
Keep away from direct sunlight.

Incompatible materials to avoid: Acids
Bases
Oxidizing agents Reducing agents Sulfites Perchlorates
May attack many plastics, rubbers and coatings.

Hazardous decomposition:

In case of fire hazardous decomposition products may be products
produced such as: Hydrogen cyanide (hydrocyanic acid) Carbon dioxide (CO₂), carbon
monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

Acetonitrile : LD50: 2,460 mg/kg Species: rat

1-Methylimidazole : LD50: 1,130 mg/kg Species: rat

Acute inhalation toxicity

Acetonitrile : LC50: 16000 ppm Exposure time: 4 h Species: rat

Acute dermal toxicity

Acetonitrile : LD50: > 2,000 mg/kg Species: rabbit

1-Methylimidazole: LD50: 400 - 600 mg/kg Species: rabbit

Skin irritation

1-Methylimidazole:

Species: rabbit

Result: Causes burns.

Classification: Corrosive

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Eye irritation

Acetonitrile:

Species: rabbit
Result: Irritating to eyes.

1-Methylimidazole:

Species: rabbit
Result: Risk of serious damage to eyes.

Classification: Corrosive

1-Methylimidazole : Test Method: Ames test Result: negative

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish

Acetonitrile: flow-through test LC50: 1,640 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

1-Methylimidazole: static test
LC50: 100 - 220 mg/l
Exposure time: 96 h
Species: Leuciscus idus (Golden orfe)

Toxicity to daphnia and other aquatic invertebrates

1-Methylimidazole: static test
EC50: 268 mg/l Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to algae

1-Methylimidazole: EC50: 180 mg/l Exposure time: 72 h Species: Algae

Toxicity to bacteria

1-Methylimidazole: EC50: 1,100 mg/l Exposure time: 17 h Species: Bacteria

Biodegradability

1-Methylimidazole: Result: Not readily biodegradable.
Value: < 30 % Method: OECD 302 B

Further information on ecology

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT UN/ID No.: UN 2924
Proper shipping name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(Acetonitrile, 1-Methylimidazole)

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Class: 3
Packing group II
Hazard Labels 3 (8)

IATA UN/ID No.: UN 2924

Description of the goods: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(Acetonitrile, 1-METHYLIMIDAZOLE)

Class: 3
Packaging group: II
Hazard Labels: 3 (8) Packing instruction (cargo: 363aircraft)
Packing instruction: 352(passenger aircraft)
Packing instruction: Y340 (passenger aircraft)

IMDG UN/ID No.: UN 2924

Description of the goods: FLAMMABLE LIQUID, CORROSIVE, N.O.S.
(ACETONITRILE, 1-METHYLIMIDAZOLE)

Class : 3
Packaging group: II
Hazard Labels : 3 (8)
EmS Number : F-E, S-C
Marine pollutant: No

SECTION 15. REGULATORY INFORMATION

Inventories

US. Toxic Substances: On TSCA Inventory Control Act

Australia. Industrial: On the inventory, or in compliance with the inventory Chemical (Notification and Assessment) Act

Canada. Canadian: All components of this product are on the Canadian DSL. Environmental Protection Act (CEPA). Domestic Substances List (DSL)

Japan. Kashin-Hou Law : On the inventory, or in compliance with the inventory List

Korea. Toxic Chemical : On the inventory, or in compliance with the inventory Control Law (TCCL) List

Philippines. The Toxic : On the inventory, or in compliance with the inventory Substances and Hazardous and Nuclear Waste Control Act

China. Inventory of Existing : On the inventory, or in compliance with the inventory Chemical Substances

New Zealand. Inventory of : On the inventory, or in compliance with the inventory Chemicals (NZIoC), as published by ERMA New Zealand

TSCA 12B : US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) Acetonitrile 75-05-8

National regulatory information: The following component(s) of this product is/are subject to GHS release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

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Reportable quantity: 5000 lbs: Acetonitrile 75-05-8

SARA 302 Components : The following components are subject to reporting levels established by SARA Title III, Section 302:: Acrylonitrile 107-13-1

SARA 313 Components : The following components are subject to reporting levels established by SARA Title III, Section 313:: Acetonitrile 75-05-8

SARA 311/312 Hazards : Fire Hazard

Acute Health Hazard Chronic Health Hazard

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause cancer. Acrylonitrile 107-13-1

Massachusetts RTK : Acetonitrile 75-05-8

New Jersey RTK : Acetonitrile 75-05-8

Pennsylvania RTK : Acetonitrile 75-05-8

WHMIS Classification : B2: Flammable liquid

E: Corrosive Material

D1A: Very Toxic Material Causing Immediate and Serious Toxic Effects

D2B: Toxic Material Causing Other Toxic Effects

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. ChemGenes India Pvt. Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.

-----End of MSDS-----