SAFETY DATA SHEET

1. Identification

Product identifier: 3,4-Dichloronitrobenzene
Other means of identification:
   Item: N-10785
Recommended use: For Laboratory Use Only
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
   Company name: Chem Service, Inc.
   Address: 660 Tower Lane
          West Chester, PA 19380
          United States
   Telephone: Toll Free 800-452-9994
          Direct 610-692-3026
   Website: www.chemservice.com
   E-mail: info@chemservice.com
   Emergency phone number
          Chemtrec US 800-424-9300
          Chemtrec outside US +1 703-527-3887

2. Hazard(s) identification

Physical hazards: Not classified.
Health hazards:
   Acute toxicity, oral: Category 3
   Acute toxicity, dermal: Category 4
   Sensitization, skin: Category 1
Environmental hazards:
   Hazardous to the aquatic environment: Category 1
   long-term hazard
OSHA defined hazards: Not classified.

Label elements

Signal word: Danger
Hazard statement: Toxic if swallowed. Harmful in contact with skin. May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing.

Response: If swallowed: Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Call a poison center/doctor if you feel unwell. Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.

Storage: Store locked up.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: None.

3. Composition/information on ingredients

Material name: 3,4-Dichloronitrobenzene
N-10785 Version #: 01 Issue date: 06-19-2015
4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed
May cause an allergic skin reaction. Dermatitis. Rash.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
Use water spray to cool unopened containers.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions
Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.
7. Handling and storage
Precautions for safe handling: Provide adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection
Occupational exposure limits: No exposure limits noted for ingredient(s).
Biological limit values: No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment
Eye/face protection: Face shield is recommended. Wear safety glasses with side shields (or goggles).
Skin protection
   Hand protection: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
   Other: Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties
Appearance
   Physical state: Solid.
   Form: Solid.
   Color: Yellow
Odor: Not available.
Odor threshold: Not available.
pH: Not available.
Melting point/freezing point: 109.4 °F (43 °C)
Initial boiling point and boiling range: 491 - 492.8 °F (255 - 256 °C)
Flash point: Not available.
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Upper/lower flammability or explosive limits
   Flammability limit - lower (%): Not available.
   Flammability limit - upper (%): Not available.
   Explosive limit - lower (%): Not available.
   Explosive limit - upper (%): Not available.
Vapor pressure: 0.001 kPa at 25 °C
Vapor density: 6.63
Relative density: Not available.
Solubility(ies)
  Solubility (water) Not available.
Partition coefficient (n-octanol/water) 3.12
Auto-ignition temperature Not available.
Decomposition temperature Not available.
Viscosity Not available.

Other information
  Density 1.4557 g/cm³ estimated at 75 °C
  Explosive properties Not explosive.
  Molecular formula C6-H3-Cl2-N-O2
  Molecular weight 192 g/mol
  Oxidizing properties Not oxidizing.
  Specific gravity 1.46 at 75 °C

10. Stability and reactivity
Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Material is stable under normal conditions.
Possibility of hazardous reactions Hazardous polymerization does not occur.
Conditions to avoid Contact with incompatible materials.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
  Inhalation No adverse effects due to inhalation are expected.
  Skin contact Harmful in contact with skin. May cause an allergic skin reaction.
  Eye contact Direct contact with eyes may cause temporary irritation.
  Ingestion Toxic if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics
  May cause an allergic skin reaction. Dermatitis. Rash.
Information on toxicological effects
Acute toxicity Toxic if swallowed. Harmful in contact with skin. May cause an allergic skin reaction.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
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<tbody>
<tr>
<td>3,4-Dichloronitrobenzene (CAS 99-54-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg, 24 Hours</td>
</tr>
<tr>
<td>Oral</td>
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<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>625 mg/kg</td>
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</table>

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization
  Respiratory sensitization Not a respiratory sensitizer.
  Skin sensitization May cause an allergic skin reaction.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

12. Ecological information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

3.12

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number

UN3077

UN proper shipping name

Environmentally hazardous substances, solid, n.o.s. (3,4-Dichloronitrobenzene)

Transport hazard class(es)

Class 9

Subsidiary risk -

Label(s) 9

Packing group III

Environmental hazards

Marine pollutant Yes

Special precautions for user

Read safety instructions, SDS and emergency procedures before handling.

Special provisions

8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33

Packaging exceptions

155

Packaging non bulk

213

Packaging bulk

240

IATA

UN number

UN3077

UN proper shipping name

Environmentally hazardous substance, solid, n.o.s. (3,4-Dichloronitrobenzene)

Transport hazard class(es)

Class 9

Subsidiary risk -

Packing group III
### Environmental hazards
Yes

### ERG Code
9L

### Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

### Other information

<table>
<thead>
<tr>
<th>Description</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Passenger and cargo aircraft</td>
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</tr>
<tr>
<td>Cargo aircraft only</td>
<td>Allowed.</td>
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</table>

### IMDG

<table>
<thead>
<tr>
<th>Description</th>
<th>Status</th>
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<tbody>
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<td>UN number</td>
<td>UN3077</td>
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<tr>
<td>UN proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (3,4-Dichloronitrobenzene)</td>
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<tr>
<td>Transport hazard class(es)</td>
<td>Class: 9</td>
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<tr>
<td></td>
<td>Subsidiary risk: -</td>
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<td>Packing group: III</td>
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<td></td>
<td>Environmental hazards: Yes</td>
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<tr>
<td></td>
<td>Marine pollutant: F-A, S-F</td>
</tr>
</tbody>
</table>

### Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

### DOT; IATA; IMDG

![Hazard symbol](image-url)

### Marine pollutant

![Hazard symbol](image-url)

### General information
IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

### 15. Regulatory information

#### US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

- **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**
  - Not regulated.
- **CERCLA Hazardous Substance List (40 CFR 302.4)**
  - Not listed.
- **SARA 304 Emergency release notification**
  - Not regulated.
  - Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance
Not listed.
SARA 311/312 Hazardous chemical
Yes
SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.
US. Massachusetts RTK - Substance List
Not regulated.
US. New Jersey Worker and Community Right-to-Know Act
Not regulated.
US. Pennsylvania RTK - Hazardous Substances
Not regulated.
US. Pennsylvania Worker and Community Right-to-Know Law
Not listed.
US. Rhode Island RTK
Not regulated.
US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision
Issue date: 06-19-2015
Material name: 3,4-Dichloronitrobenzene

N-10785 Version #: 01 Issue date: 06-19-2015