Safety Data Sheet  
NONA Explosive  

1. Identification  

1.1. Product identifier  
Product Identity: NONA Explosive  
Alternate Names: NONA, Detotec NONA, 2,2',2'',4,4',4'',6,6',6''-Nonanitro-m-terphenyl (NONA)  

1.2. Relevant identified uses of the substance or mixture and uses advised against  
Intended use: See Technical Data Sheet.  
Application Method: See Technical Data Sheet.  

1.3. Details of the supplier of the safety data sheet  
Manufacturer/Supplier: Detotec North America, Inc.  
363 Ekonk Hill Road  
Sterling, CT 06377  
1-860-564-1012  

1.4. Emergency  
CHEMTEL INC.  
24-hour Emergency Telephone No.: 1-800-255-3924  
Customer Service: Detotec North America, Inc.  

2. Hazard(s) identification  

2.1. Classification of the substance or mixture  
Expl. 1.1;H201: Explosive; mass explosion hazard.  
Acute Tox. 3;H301: Toxic if swallowed.  
STOT SE 1;H370: Causes damage to organs. Specific Target Organs: (Not Available)  
STOT RE 2;H373: May cause damage to organs through prolonged or repeated exposure (if ingested).  

2.2. Label elements  
Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.  

Danger  

H201 Explosive; mass explosion hazard.  
H301 Toxic if swallowed.  
H316 Causes mild skin irritation.  

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H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure (if ingested).

[Prevention]:
P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.
P250 Do not subject to grinding/shock/friction.
P261 Avoid breathing dust / fume / mist / vapor / spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]:
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P307+311 IF exposed: Call a POISON CENTER or doctor / physician.
P314 Get Medical advice / attention if you feel unwell.
P321 Specific treatment (see information on this SDS).
P330 Rinse mouth.
P363 Wash contaminated clothing before reuse.
P370+380 In case of fire: Evacuate area.
P372 Explosion risk in case of fire.
P373 DO NOT fight fire when fire reaches explosives.

[Storage]:
P401 Store in accordance with applicable regulations.
P405 Store locked up.

[Disposal]:
P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONA 2,2',2'',4,4',4'',6,6',6''-Nonanitro-m-terphenyl</td>
<td>75 - 100</td>
<td>Expl. 1.1;H201 Acute Tox. 3; H301 STOT SE 1;H370 STOT RE 2;H373</td>
<td>[1]</td>
</tr>
<tr>
<td>CAS Number: 51460-84-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>0 – 25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[1] Substance classified with a health or environmental hazard.
*The full texts of the phrases are shown in Section 16.
4. First aid measures

4.1. Description of first aid measures

General
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation
Not a likely route of exposure. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek prompt medical attention.

Eyes
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Not a probable route of exposure.

Skin
Wash with soap and warm water. Clean clothing thoroughly and dispose of shoe contaminated with explosive in accordance with explosive disposal procedures. Get medical attention for rash or irritation.

Ingestion
Not a probable route of exposure; seek medical advice if ingested.

4.2. Most important symptoms and effects, both acute and delayed

Overview
The product is Division 1.1 explosive, and detonation may cause severe physical injury, including death. All explosives are dangerous and must be handled carefully and used following approved safety procedures under the direction of competent, experienced persons in accordance with all applicable federal, state and local laws, regulations, and ordinances.

Ingestion of NONA may cause disorders or epileptiform seizures.

None of the components of NONA are listed as a carcinogen by NTP, IARC, or OSHA. See section 2 for further details.

Skin
Causes mild skin irritation.

Ingestion
Harmful if swallowed.

5. Fire-fighting measures

5.1. Extinguishing media
Water sprinkler/deluge system recommended. Do not attempt to manually extinguish fires. Burning explosives may accelerate to a detonation at any time when subjected to confinement, shock or other sufficient initiations source. Personnel should leave the building immediately using as much protective cover as possible and activated deluge systems and fire alarm equipment while escaping.

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition: Carbon dioxide, carbon monoxide and nitrogen oxides.
Keep away from heat / sparks / open flames / hot surfaces - No smoking.
Do not subject to grinding/shock/friction.
Avoid breathing dust / fume / mist / vapor / spray.
5.3. Advice for fire-fighters
FLASH POINT: Not Applicable.
FLAMMABLE LIMITS: Not Applicable.
EXTINGUISHING MEDIA: See below.
SPECIAL FIREFIGHTING PROCEDURES: ALL EXPLOSIVES: DO NOT FIGHT EXPLOSIVES FIRES. Try to keep fire from reaching explosives. Isolate Area. Guard against intruders. Withdraw personnel immediately. Allow fire to burn itself out.
Division 1.1 Explosives: Evacuate the area for 5000 feet (1 mile). Consult the 2012 Emergency Response Guidebook, Guide 112 for further details.
UNUSUAL FIRE AND EXPLOSION HAZARDS: May explode when subjected to fire or shock. Avoid toxic fumes from fire. Do not smother.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions
Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Add compatible solvent such as water to dilute and desensitize. Absorb material onto a rag. Dispose of as hazardous waste. Avoid pinching material, metal to metal contact, and impact with sharp objects, friction or other situations which may initiate the explosive. Avoid sand, glass, grit and metal fragments which may sensitize the material to impact and or friction. Protect from all ignition sources. Sweep up and dispose of all spilled material immediately. Only competent, experienced persons should be involved in cleanup procedures. Do not permit smoking or open flames near spill site.

WASTE DISPOSAL METHOD: Dispose of under direct supervision of a qualified person according to local, state and federal regulations. This material may become a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, parts 260-271, and must be collected, labeled and disposed of per state and federal hazardous waste regulations.

7. Handling and storage

7.1. Precautions for safe handling
8. Exposure controls and personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>51460-84-5</td>
<td>NONA 2,2',2'',4,4',4'',6,6',6''-Nonanitro-m-terphenyl</td>
<td>OSHA</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>No Established Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Respiratory: Not required under normal conditions.
Eyes: Not required under normal conditions.
Skin: Not required under normal conditions.
Other Work Practices: Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

AND ORDINANCES.
See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities
Handle in hood or well-ventilated area. Avoid contact with skin and eyes. Dust generated by handling must be cleaned up on a continuing basis. Wash thoroughly after handling. Handle containers carefully to prevent damage and spillage. Incompatible materials: Avoid contact with strong acids or alkalies. Store in accordance with the requirements of Subpart K, ATF: Explosives Law and Regulations (27 CFR 55.201-55.219). Store in a cool, dry, well-ventilated location.

The maximum recommended temperature for NONA is 500°F (260°C).

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)
No data available.
9. Physical and chemical properties

**Appearance**
Pale yellow fine solid material

**Odor**
None

**Odor threshold**
Not Measured

**pH**
Not Applicable

**Melting point / freezing point**
>360°C / Not Measured

**Initial boiling point and boiling range**
Not Applicable

**Flash Point**
Not Applicable

**Danger of explosion:**
Risk of explosion by shock, friction, fire or other sources of ignition. Heating may cause an explosion.

**Evaporation rate**
Not Applicable

**Flammability (solid, gas)**
Not Applicable

**Upper/lower flammability or explosive limits**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower Explosive Limit</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Upper Explosive Limit</strong></td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**Vapor pressure (mm Hg)**
Not Applicable

**Vapor Density (Air = 1)**
Not Applicable

**Specific Gravity (H₂O=1)**
1.78

**Solubility in Water**
Not Applicable

**Partition coefficient n-octanol/water (Log Kow)**
Not Measured

**Auto-ignition temperature**
Not Measured

**Decomposition temperature**
Not Measured

**Viscosity (cSt)**
Not Measured

9.2. Other information

No other relevant information.

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
May explode when subjected to fire, shock, or high-energy projectile impact.

10.5. Incompatible materials
Avoid contact with strong acids or alkalies.
10.6. Hazardous decomposition products
Gases produced may contain carbon monoxide and nitrogen oxides.

11. Toxicological information

Acute toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LD50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LD50, mg/L/4hr</th>
<th>Inhalation Gas LD50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONA 2,2',2'',4,4',4'',6,6',6''-Nonanitro-m-terphenyl–(51460-84-5)</td>
<td>&gt;5g/Kg in rats</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>3</td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>3</td>
<td>Causes mild skin irritation.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>2</td>
<td>May cause damage to organs through prolonged or repeated exposure (if ingested).</td>
</tr>
</tbody>
</table>

12. Ecological information

12.1. Toxicity
Aquatic toxicity: See Section 3 for chemical specific data.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONA 2,2',2'',4,4',4'',6,6',6''-Nonanitro-m-terphenyl–(51460-84-5)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
Not Measured.

12.4. Mobility in soil
No data available.
12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.

13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Substances, explosive, n.o.s. (NONA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>1.1D</td>
</tr>
<tr>
<td>UN Number</td>
<td>UN0475</td>
</tr>
<tr>
<td>DOT Label &amp; Placard</td>
<td>EXPLOSIVE 1.1D</td>
</tr>
</tbody>
</table>

15. Regulatory information

Regulatory Overview  The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)  Neither this product, nor its chemical components, appear on any US state lists.

US EPA Tier II Hazards  Fire: No
Sudden Release of Pressure: Yes
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): Yes

EPCRA 311/312 Chemicals and RQs:  To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:  To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:  To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):  To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):  To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):  To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.
Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H201 Explosive; mass explosion hazard.
H301 Toxic if swallowed.
H316 Causes mild skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure (if ingested).

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

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