



## NS-2802-G Syn-Tech Ltd.

Version No: 1.1  
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Chemwatch Hazard Alert Code: 3

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S.GHS.USA.EN

### SECTION 1 Identification

#### Product Identifier

Product name	NS-2802-G
Synonyms	Not Available
Other means of identification	Not Available

#### Recommended use of the chemical and restrictions on use

Relevant identified uses	Lubricant
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#### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Syn-Tech Ltd.	Syn-Tech Ltd.
Address	1550 W Fullerton Ave, Unit F Illinois 60101 United States	1550 W. Fullerton Ave Illinois United States
Telephone	630-628-7290	630-628-7290
Fax	Not Available	Not Available
Website	<a href="http://www.syn-techlube.com">www.syn-techlube.com</a>	<a href="http://www.syn-techlube.com">www.syn-techlube.com</a>
Email	msds@syn-techlube.com	msds@syn-techlube.com

#### Emergency phone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

### SECTION 2 Hazard(s) identification

#### Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Carcinogenicity Category 1B, Sensitisation (Skin) Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 3
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#### Label elements

Hazard pictogram(s)	
Signal word	Danger

#### Hazard statement(s)

H350	May cause cancer.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

**Hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

P201	Obtain special instructions before use.
P280	Wear protective gloves and protective clothing.
P261	Avoid breathing dust/fumes.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing must not be allowed out of the workplace.

**Precautionary statement(s) Response**

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

**Precautionary statement(s) Storage**

P405	Store locked up.
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**Precautionary statement(s) Disposal**

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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Not Applicable

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

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
94270-86-7	3	<u>N-alkylated benzotriazole</u>
64742-53-6	1.5	<u>naphthenic distillate, light, hydrotreated (mild)</u>

**SECTION 4 First-aid measures****Description of first aid measures**

<b>Eye Contact</b>	<ul style="list-style-type: none"> <li>▶ Generally not applicable.</li> </ul>
<b>Skin Contact</b>	If skin contact occurs: <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> <li>▶ Generally not applicable.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ Generally not applicable.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Generally not applicable.</li> </ul>

**Most important symptoms and effects, both acute and delayed**

See Section 11

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5 Fire-fighting measures****Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

Continued...

**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul>
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**Special protective equipment and precautions for fire-fighters**

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul> <p>Slight hazard when exposed to heat, flame and oxidisers.</p>
<b>Fire/Explosion Hazard</b>	<p>Combustible. Will burn if ignited.          Combustion products include:          carbon monoxide (CO)          carbon dioxide (CO<sub>2</sub>)          other pyrolysis products typical of burning organic material.          May emit poisonous fumes.          May emit corrosive fumes.          Articles and manufactured articles may constitute a fire hazard where polymers form their outer layers or where combustible packaging remains in place.          Certain substances, found throughout their construction, may degrade or become volatile when heated to high temperatures. This may create a secondary hazard.  <b>CARE:</b> Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns.          Foaming may cause overflow of containers and may result in possible fire.</p>

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

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Secure load if safe to do so.</li> <li>▶ Bundle/collect recoverable product.</li> <li>▶ Collect remaining material in containers with covers for disposal.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by all means available, spillage from entering drains or water courses.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Increase ventilation.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Water spray or fog may be used to disperse / absorb vapour.</li> <li>▶ Contain or absorb spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul> <p>Minor hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Control personal contact with the substance, by using protective equipment as required.</li> <li>▶ Prevent spillage from entering drains or water ways.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.</li> <li>▶ Wash area and prevent runoff into drains or waterways.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Wear protective clothing, safety glasses, dust mask, gloves.</li> <li>▶ Secure load if safe to do so. Bundle/collect recoverable product.</li> <li>▶ Use dry clean up procedures and avoid generating dust.</li> <li>▶ Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).</li> <li>▶ Water may be used to prevent dusting.</li> <li>▶ Collect remaining material in containers with covers for disposal.</li> <li>▶ Flush spill area with water.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

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## SECTION 7 Handling and storage

## Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ <b>DO NOT allow material to contact humans, exposed food or food utensils.</b></li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ Keep containers securely sealed when not in use.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store away from incompatible materials.</li> </ul>

## Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	Generally packaging as originally supplied with the article or manufactured item is sufficient to protect against physical hazards. If repackaging is required ensure the article is intact and does not show signs of wear. As far as is practicably possible, reuse the original packaging or something providing a similar level of protection to both the article and the handler.
<b>Storage incompatibility</b>	<p>Formaldehyde:</p> <ul style="list-style-type: none"> <li>▶ is a strong reducing agent</li> <li>▶ may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures</li> <li>▶ will polymerize with active organic material such as phenol</li> <li>▶ reacts violently with strong oxidisers, hydrogen peroxide, potassium permanganate, acrylonitrile, caustics (sodium hydroxide, yielding formic acid and flammable hydrogen), magnesium carbonate, nitromethane, nitrogen oxides (especially at elevated temperatures), peroxyformic acid</li> <li>▶ is incompatible with strong acids (hydrochloric acid forms carcinogenic bis(chloromethyl)ether*), amines, ammonia, aniline, bisulfides, gelatin, iodine, magnesite, phenol, some monomers, tannins, salts of copper, iron, silver.</li> <li>▶ acid catalysis can produce impurities: methylal, methyl formate</li> </ul> <p>Aqueous solutions of formaldehyde:</p> <ul style="list-style-type: none"> <li>▶ slowly oxidise in air to produce formic acid</li> <li>▶ attack carbon steel</li> </ul> <p>Concentrated solutions containing formaldehyde are:</p> <ul style="list-style-type: none"> <li>▶ unstable, both oxidising slowly to form formic acid and polymerising; in dilute aqueous solutions formaldehyde appears as monomeric hydrate (methylene glycol) - the more concentrated the solution the more polyoxymethylene glycol occurs as oligomers and polymers (methanol and amine-containing compounds inhibit polymer formation)</li> <li>▶ readily subject to polymerisation, at room temperature, in the presence of air and moisture, to form paraformaldehyde (8-100 units of formaldehyde), a solid mixture of linear polyoxymethylene glycols containing 90-99% formaldehyde; a cyclic trimer, trioxane (CH<sub>2</sub>O<sub>3</sub>), may also form</li> </ul> <p>Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents</p> <p>*The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl:  <math>\log(\text{BCME})_{\text{ppb}} = -2.25 + 0.67 \cdot \log(\text{HCHO})_{\text{ppm}} + 0.77 \cdot \log(\text{HCl})_{\text{ppm}}</math>      Assume values for formaldehyde, in air, of 1 ppm and for HCl of 5 ppm, resulting BCME concentration, in air, would be 0.02 ppb.</p> <ul style="list-style-type: none"> <li>▶ Avoid reaction with oxidising agents</li> </ul>

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	naphthenic distillate, light, hydrotreated (mild)	Oil mist, mineral	5 mg/m <sup>3</sup>	Not Available	Not Available	Not Available

## Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
naphthenic distillate, light, hydrotreated (mild)	1,100 mg/m <sup>3</sup>	1,800 mg/m <sup>3</sup>	40,000 mg/m <sup>3</sup>

Ingredient	Original IDLH	Revised IDLH
N-alkylated benzotriazole	Not Available	Not Available
naphthenic distillate, light, hydrotreated (mild)	2,500 mg/m <sup>3</sup>	Not Available

## Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
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## Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

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Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
N-alkylated benzotriazole	E	≤ 0.1 ppm
<b>Notes:</b>	<i>Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.</i>	

## Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <ul style="list-style-type: none"> <li>▶ Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated area.</li> <li>▶ Work should be undertaken in an isolated system such as a "glove-box" . Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.</li> <li>▶ Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within.</li> <li>▶ Open-vessel systems are prohibited.</li> <li>▶ Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.</li> <li>▶ Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system.</li> <li>▶ For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.</li> <li>▶ Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated areas).</li> <li>▶ Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.</li> <li>▶ Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.</li> </ul> <p>Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use. Exceptions may arise following extensive use and subsequent wear, during recycling or disposal operations where substances, found in the article, may be released to the environment.</p>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<p>No special equipment required due to the physical form of the product.</p> <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p>Wear general protective gloves, eg. light weight rubber gloves.</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent]</li> <li>▶ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent]</li> <li>▶ Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.</li> <li>▶ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.</li> <li>▶ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.</li> <li>▶ Overalls.</li> <li>▶ P.V.C apron.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eye wash unit.</li> </ul>

## Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Respiratory protection not normally required due to the physical form of the product.

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Cream grease, bland odor		
<b>Physical state</b>	Manufactured	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature (°C)</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Applicable
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Immiscible	<b>pH as a solution (Not Available%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	Product is considered stable and hazardous polymerisation will not occur.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 Toxicological information

### Information on toxicological effects

<b>Inhaled</b>	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Inhalation of oil droplets or aerosols may cause discomfort and may produce chemical inflammation of the lungs.
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<b>Ingestion</b>	The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
<b>Skin Contact</b>	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
<b>Eye</b>	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
<b>Chronic</b>	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information. Repeated application of mildly hydrotreated oils (principally paraffinic), to mouse skin, induced skin tumours; no tumours were induced with severely hydrotreated oils. Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity.

<b>NS-2802-G</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>N-alkylated benzotriazole</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[2]</sup> Oral (Rat) LD50; 3300 mg/kg <sup>[2]</sup>	Not Available
<b>naphthenic distillate, light, hydrotreated (mild)</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >2000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50; 2.18 mg/4h <sup>[2]</sup> Oral (Rat) LD50; >5000 mg/kg <sup>[2]</sup>	Skin (rabbit): 500mg SEVERE Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>N-ALKYLATED BENZOTRIAZOLE</b>	<p>*RT Vanderbilt MSDS Repeat dose toxicity: A combined repeated dose toxicity study with the reproduction/developmental toxicity screening test (OECD 422) revealed parental toxicity at 150 mg/kg bw (clinical signs, reduced body weight gains with lower food consumption, slightly reduced thymus organ weight, and microscopic findings in the thymus and spleen). The NOAEL was considered to be 45 mg/kg body weight per day</p> <p>Genetic toxicity: The test compound did not cause mutations in bacteria and in mammalian cell culture Data obtained with a structural analogue did not reveal any potential for clastogenic effects in mammalian cells ** REACH Dossier</p> <p>For benzotriazoles</p> <p>There are several indications that the effects of phenolic benzotriazoles described in the literature might be caused by endocrine disruption, e.g. reduced concentrations of testosterone, higher concentrations of CYP 450, or higher activity of ethoxyresorufin-O-deethylase (EROD-activity). As in these cases there are also indications for toxic effects on the liver reported, the effects might actually be only secondary effects. With the present knowledge it is not possible to attribute them unambiguously as endocrine adverse effects of an equivalent level of concern.</p> <p>Several benzotriazole UV stabilisers showed significant human aryl hydrocarbon receptor (AhR) ligand activity. The AhR has roles in regulating immunity, stem cell maintenance, and cellular differentiation A study indicated that certain benzotriazole UV stabilisers have the potential to accumulate and exert potent physiological effects in humans, analogous to polycyclic aromatic hydrocarbons and dioxins, which are known stable and toxic ligands. The polycyclic aromatic hydrocarbon the polycyclic aromatic hydrocarbon, benzo[a]pyrene (BaP), a ligand for AhR, induces its own metabolism and bioactivation to a toxic metabolites.</p> <p>Benzotriazole is the core structure present within the phenolic benzotriazole class. In vitro metabolism with rat liver microsomes yielded formation of 5- and 4-hydroxybenzotriazole (1.6 and 0.32% of the amount added, respectively). Overall metabolism was low (&lt;5% of the total amount added) Oral acute studies in rats and mice yielded LD50 values that ranged from 560 to 909 mg/kg. Intraperitoneal LD50 values in mice and rats ranged from 400-1000 and 500-900 mg/kg, respectively. A mouse intravenous LD50 of 238 mg/kg was identified. Dermal LD50 values were =1000 mg/kg in rats and rabbits, and inhalation LC50 values in rats were 1.5 mg/L and 1.91 mg/L/3 hours). Subchronic and short-term studies showed that oral administration to mice produced minimal effects on body weight while dose-dependent decreases in body weight were observed in rats. Endocrine effects, normocytic anemia, and leukopenia were noted in rats dosed for 26 weeks. The TDLo was 109 mg/kg. No effects on deaths and no clinical symptoms were noted in mice or rats orally administered (in food) benzotriazole =78 weeks. Additionally, no dose-related effects on reproductive organs were noted in either sex. Neoplastic liver nodules were observed in male Fischer rats fed 12,100 ppm benzotriazole for 78 weeks. However, historic laboratory controls incidences varied from 0 to 11% so the treatment-related effects could not be determined. Brain tumors occurred in three males and one female rat. Incidence of endometrial stromal polyps was increased significantly in female rats fed 6700 ppm for 78 weeks (22%), but not in female rats fed 12,100 ppm (16%). Significant increase in alveolar/bronchiolar carcinomas (18%) was observed female B6C3F1 fed 11,700 ppm benzotriazole for 104 weeks. Comparatively, a similar increase was not observed in female mice fed 23,500 ppm benzotriazole for the same period of time (6% increase). Historical laboratory control incidences varied from 0 to 7%. Genotoxicity studies indicate that the compound was not mutagenic to S. typhimurium strains TA97, TA98, or TA100 in the presence or absence of S9, or Chinese hamster ovary cells. Benzotriazole was also not mutagenic to S. typhimurium strain TA1535 in the absence of S9, but was mutagenic in the presence of S9. Conflicting results were obtained for effects in S. typhimurium strains TA1537 and TA1538 and E. coli WP2 uvrA. It did not produce DNA damage in E. coli PQ37. In Chinese hamster ovary cells, benzotriazole induced chromosomal aberrations in the presence of S9 and sister chromatid exchange in the absence of S9. Benzotriazole was not genotoxic in the mouse micronucleus assay at 800 mg/kg. Benzotriazole was identified as a non-sensitizer in the guinea pig maximization test. Benzotriazole was identified as irritating to rabbit eyes and minimally irritating to rabbit and guinea pig skin</p> <p>For phenolic benzotriazoles</p> <p>Overall, oral exposure (either through gavage or in feed) of the tested chemicals to rats led to liver effects. Increased absolute and/or relative liver weights were observed in several studies. Body weight and body weight gain changes were observed after administration of several test substances. Histopathological changes (e.g., foci, hypertrophy, and cytoplasmic vacuolization) and altered liver enzyme content and activities were also noted after treatment with different phenolic benzotriazoles. Haematological effects (e.g., altered white and red blood cell counts, altered albumin levels, and packed cell volume) were observed. For those studies that calculated no observed adverse effect levels (NOAELs), the values ranged from &lt;0.5 to ~5685 mg/kg/day</p> <p><b>Reproductive and teratology effects:</b> The chemicals tested produced a variety of effects. Some chemicals were shown to affect reproductive organ weights, but no direct studies in reproduction and development were located.</p>
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## NS-2802-G

	<p><b>Genotoxicity</b> None of the tested compounds were identified as mutagenic in vitro in the absence or presence of a metabolic system (S9) or in vivo</p> <p>Chemical Information Review Document for Phenolic Benzotriazoles: Supporting Nomination for Toxicological Evaluation by the National Toxicology Program October 2011  <a href="http://ntp.niehs.nih.gov/ntp/noms/support_docs/phenolicbenzotriazoles_cird_oct2011_508.pdf">http://ntp.niehs.nih.gov/ntp/noms/support_docs/phenolicbenzotriazoles_cird_oct2011_508.pdf</a>          No significant acute toxicological data identified in literature search.</p>		
<b>NAPHTHENIC DISTILLATE, LIGHT, HYDROTREATED (MILD)</b>	<p>The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:</p> <ul style="list-style-type: none"> <li>• The adverse effects of these materials are associated with undesirable components, and</li> <li>• The levels of the undesirable components are inversely related to the degree of processing;</li> <li>• Distillate base oils receiving the same degree or extent of processing will have similar toxicities;</li> <li>• The potential toxicity of residual base oils is independent of the degree of processing the oil receives.</li> <li>• The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.</li> </ul> <p>Unrefined &amp; mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential cancer-causing and mutation-causing activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity. Testing of residual oils for mutation-causing and cancer-causing potential has shown negative results, supporting the belief that these materials lack biologically active components or the components are largely non-bioavailable due to their molecular size.</p> <p>Toxicity testing has consistently shown that lubricating base oils have low acute toxicities. Numerous tests have shown that a lubricating base oil is mutagenic and carcinogenic potential correlates with its 3-7 ring polycyclic aromatic compound (PAC) content, and the level of DMSO extractables (e.g. IP346 assay), both characteristics that are directly related to the degree/conditions of processing.</p> <p>For unrefined and mildly refined distillate base oils:</p> <p>Acute toxicity: Animal testing showed high semilethal doses of &gt;5000 mg/kg body weight and &gt;2 g/kg body weight for exposure by swallowing or skin contact, respectively. The same material was also reported to be moderately irritating to skin, while not being sensitizing.</p> <p>Repeat dose toxicity: Animal testing showed that repeat dose toxicity was mild to moderate to the skin.</p> <p>Reproductive / developmental toxicity: No studies on developmental toxicity or reproduction are available. Animal testing shows that high doses may reduce the body weight of both the mother and the foetus, and increase the rate of soft tissue malformations.</p> <p>Genetic toxicity: These oils have been found to cause mutations.</p> <p>Cancer-causing potential: The general conclusion that can be drawn from animal testing is that these oils may potentially cause skin cancer; however, they have not been found to be associated with an increase in tumours elsewhere in the body.</p> <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.</p> <p><b>WARNING:</b> This substance has been classified by the IARC as Group 1: <b>CARCINOGENIC TO HUMANS.</b></p>		
<b>NS-2802-G &amp; N-ALKYLATED BENZOTRIAZOLE</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p>		
<b>Acute Toxicity</b>	<b>×</b>	<b>Carcinogenicity</b>	<b>✓</b>
<b>Skin Irritation/Corrosion</b>	<b>×</b>	<b>Reproductivity</b>	<b>×</b>
<b>Serious Eye Damage/Irritation</b>	<b>×</b>	<b>STOT - Single Exposure</b>	<b>×</b>
<b>Respiratory or Skin sensitisation</b>	<b>✓</b>	<b>STOT - Repeated Exposure</b>	<b>×</b>
<b>Mutagenicity</b>	<b>×</b>	<b>Aspiration Hazard</b>	<b>×</b>

**Legend:** **×** – Data either not available or does not fill the criteria for classification  
**✓** – Data available to make classification

## SECTION 12 Ecological information

## Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
	<b>NS-2802-G</b>	Not Available	Not Available	Not Available	Not Available
<b>N-alkylated benzotriazole</b>	EC50(ECx)	24h	Crustacea	1.4mg/l	Not Available
	LC50	96h	Fish	1.3mg/l	Not Available
<b>naphthenic distillate, light, hydrotreated (mild)</b>	ErC50	72h	Algae or other aquatic plants	>1000mg/l	1
	NOEC(ECx)	504h	Crustacea	>1mg/l	1
	EC50	48h	Crustacea	>1000mg/l	1
	EC50	96h	Algae or other aquatic plants	>1000mg/l	1
<b>Legend:</b>	<p>Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data</p>				

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Continued...



Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).

**DO NOT discharge into sewer or waterways.**

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

#### Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

#### Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

### SECTION 13 Disposal considerations

#### Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> <li>▶ Bury or incinerate residue at an approved site.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>
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### SECTION 14 Transport information

#### Labels Required

Marine Pollutant	NO
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**Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

Product name	Group
N-alkylated benzotriazole	Not Available
naphthenic distillate, light, hydrotreated (mild)	Not Available

**Transport in bulk in accordance with the ICG Code**

Product name	Ship Type
N-alkylated benzotriazole	Not Available
naphthenic distillate, light, hydrotreated (mild)	Not Available

### SECTION 15 Regulatory information

#### Safety, health and environmental regulations / legislation specific for the substance or mixture

**N-alkylated benzotriazole is found on the following regulatory lists**

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

**naphthenic distillate, light, hydrotreated (mild) is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List

US DOE Temporary Emergency Exposure Limits (TEELs)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US National Toxicology Program (NTP) 15th Report Part A Known to be Human Carcinogens

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

US OSHA Permissible Exposure Limits (PELs) Table Z-1

US - California Proposition 65 - Carcinogens

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List

US TSCA Chemical Substance Inventory - Interim List of Active Substances

US - Massachusetts - Right To Know Listed Chemicals

## Federal Regulations

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	Yes
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

#### US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

## State Regulations

#### US. California Proposition 65

**WARNING:** This product can expose you to chemicals including **naphthenic distillate, light, hydrotreated (mild)**, which are known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSSL	No (N-alkylated benzotriazole; naphthenic distillate, light, hydrotreated (mild))
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (N-alkylated benzotriazole)
Japan - ENCS	No (N-alkylated benzotriazole)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (N-alkylated benzotriazole; naphthenic distillate, light, hydrotreated (mild))
Vietnam - NCI	Yes
Russia - FBEPH	Yes
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

## SECTION 16 Other information

Revision Date	08/18/2022
Initial Date	08/17/2022

## Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification

Continued...

committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

#### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AII: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory  
NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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