# NS-2196-G

## Syn-Tech Ltd.

Chemwatch Hazard Alert Code: **3**

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

Issue Date: **08/08/2022**
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S.GHS.USA.EN

## SECTION 1 Identification

### Product Identifier

| | |
|---|---|
| **Product name** | NS-2196-G |
| **Synonyms** | Not Available |
| **Other means of identification** | Not Available |

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

| | |
|---|---|
| **Relevant identified uses** | Lubricant |

### 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** | www.syn-techlube.com | www.syn-techlube.com |
| **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** | Sensitisation (Skin) Category 1, Acute Toxicity (Oral) Category 3 |

### Label elements

| | |
|---|---|
| **Hazard pictogram(s)** |  |
| **Signal word** | **Danger** |

### Hazard statement(s)

**Page 1 continued...**

| | |
|---|---|
| **H317** | May cause an allergic skin reaction. |
| **H301** | Toxic if swallowed. |

### Hazard(s) not otherwise classified

Not Applicable

### Precautionary statement(s) Prevention

| | |
|---|---|
| **P264** | Wash all exposed external body areas thoroughly after handling. |
| **P270** | Do not eat, drink or smoke when using this product. |
| **P280** | Wear protective gloves and protective clothing. |
| **P261** | Avoid breathing dust/fumes. |
| **P272** | Contaminated work clothing must not be allowed out of the workplace. |

### Precautionary statement(s) Response

| | |
|---|---|
| **P301+P310** | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider. |
| **P330** | Rinse mouth. |
| **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

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|---|---|
| **P405** | Store locked up. |

### Precautionary statement(s) Disposal

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|---|---|
| **P501** | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |

Not Applicable

## SECTION 3 Composition / information on ingredients

### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No | %[weight] | Name |
|---|---|---|
| 94270-86-7 | 2 | N-alkylated benzotriazole |
| 67-56-1 | 2.4 | methanol |

## SECTION 4 First-aid measures

### Description of first aid measures

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|---|---|
| **Eye Contact** | ‣ Generally not applicable. |
| **Skin Contact** | If skin contact occurs:<br>‣ Immediately remove all contaminated clothing, including footwear.<br>‣ Flush skin and hair with running water (and soap if available).<br>‣ Seek medical attention in event of irritation.<br>‣ Generally not applicable. |
| **Inhalation** | ‣ Generally not applicable. |
| **Ingestion** | ‣ **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.**<br>‣ For advice, contact a Poisons Information Centre or a doctor.<br>‣ Urgent hospital treatment is likely to be needed.<br>‣ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.<br>‣ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.<br>‣ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.<br><br>**Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:**<br>‣ **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br>**NOTE:** Wear a protective glove when inducing vomiting by mechanical means.<br><br>‣ Generally not applicable. |

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

**Continued...**

See Section 11

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

Treat symptomatically.

## SECTION 5 Fire-fighting measures

### Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

### Special hazards arising from the substrate or mixture

| | |
|---|---|
| **Fire Incompatibility** | None known. |

### Special protective equipment and precautions for fire-fighters

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|---|---|
| **Fire Fighting** | - Alert Fire Brigade and tell them location and nature of hazard.<br>- Wear breathing apparatus plus protective gloves in the event of a fire.<br>- Prevent, by any means available, spillage from entering drains or water courses.<br>- Use fire fighting procedures suitable for surrounding area.<br>- **DO NOT** approach containers suspected to be hot.<br>- Cool fire exposed containers with water spray from a protected location.<br>- If safe to do so, remove containers from path of fire.<br>- Equipment should be thoroughly decontaminated after use.<br>Slight hazard when exposed to heat, flame and oxidisers. |
| **Fire/Explosion Hazard** | May emit poisonous fumes.<br>May emit corrosive fumes.<br>Articles and manufactured articles may constitute a fire hazard where polymers form their outer layers or where combustible packaging remains in place.<br>Certain substances, found throughout their construction, may degrade or become volatile when heated to high temperatures. This may create a secondary hazard. |

## 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

| | |
|---|---|
| **Minor Spills** | - Clean up all spills immediately.<br>- Secure load if safe to do so.<br>- Bundle/collect recoverable product.<br>- Collect remaining material in containers with covers for disposal. |
| **Major Spills** | Minor hazard.<br>- Clear area of personnel.<br>- Alert Fire Brigade and tell them location and nature of hazard.<br>- Control personal contact with the substance, by using protective equipment as required.<br>- Prevent spillage from entering drains or water ways.<br>- Contain spill with sand, earth or vermiculite.<br>- Collect recoverable product into labelled containers for recycling.<br>- Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.<br>- Wash area and prevent runoff into drains or waterways.<br>- If contamination of drains or waterways occurs, advise emergency services.<br>- Clean up all spills immediately.<br>- Wear protective clothing, safety glasses, dust mask, gloves.<br>- Secure load if safe to do so. Bundle/collect recoverable product.<br>- Use dry clean up procedures and avoid generating dust.<br>- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).<br>- Water may be used to prevent dusting.<br>- Collect remaining material in containers with covers for disposal.<br>- Flush spill area with water. |

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

## SECTION 7 Handling and storage

### Precautions for safe handling

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| **Safe handling** | - Avoid all personal contact, including inhalation.<br>- Wear protective clothing when risk of exposure occurs.<br>- Use in a well-ventilated area.<br>- Prevent concentration in hollows and sumps. |

**Continued...**

| | |
|---|---|
| | ▸ **DO NOT** enter confined spaces until atmosphere has been checked.<br>▸ **DO NOT** allow material to contact humans, exposed food or food utensils.<br>▸ Avoid contact with incompatible materials.<br>▸ When handling, **DO NOT** eat, drink or smoke.<br>▸ Keep containers securely sealed when not in use.<br>▸ Avoid physical damage to containers.<br>▸ Always wash hands with soap and water after handling.<br>▸ Work clothes should be laundered separately. Launder contaminated clothing before re-use.<br>▸ Use good occupational work practice.<br>▸ Observe manufacturer's storage and handling recommendations contained within this SDS.<br>▸ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. |
| **Other information** | ▸ Store away from incompatible materials. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | Generally packaging as originally supplied with the article or manufactured item is sufficient to protect against physical hazards.<br>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. |
| **Storage incompatibility** | Formaldehyde:<br>▸ is a strong reducing agent<br>▸ may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures<br>▸ will polymerize with active organic material such as phenol<br>▸ 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 a elevated temperatures), peroxyformic acid<br>▸ 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.<br>▸ acid catalysis can produce impurities: methylal, methyl formate<br>Aqueous solutions of formaldehyde:<br>▸ slowly oxidise in air to produce formic acid<br>▸ attack carbon steel<br>Concentrated solutions containing formaldehyde are:<br>▸ 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)<br>▸ 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 ($CH_2O_3$), may also form<br>Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents<br>*The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl:<br>log(BCME)ppb = -2.25 + 0.67• log(HCHO) ppm + 0.77• log(HCl)ppm<br>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.<br>None known |

## 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 | methanol | Methyl alcohol | 200 ppm / 260 mg/m3 | Not Available | Not Available | Not Available |
| US NIOSH Recommended Exposure Limits (RELs) | methanol | Methyl alcohol | 200 ppm / 260 mg/m3 | 325 mg/m3 / 250 ppm | Not Available | [skin] |

**Emergency Limits**

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|
| methanol | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| N-alkylated benzotriazole | Not Available | Not Available |
| methanol | 6,000 ppm | Not Available |

**Occupational Exposure Banding**

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|---|---|
| N-alkylated benzotriazole | E | ≤ 0.1 ppm |
| ***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.* | |

### Exposure controls

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| **Appropriate engineering controls** | Articles or manufactured items, in their original condition, generally don't require engineering controls during handling or in normal use.<br>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. |

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| **Personal protection** |  |
| **Eye and face protection** | No special equipment required due to the physical form of the product.<br>▸ Safety glasses with side shields.<br>▸ Chemical goggles.<br>▸ 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] |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | Wear general protective gloves, eg. light weight rubber gloves.<br>**NOTE:**<br>▸ 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.<br>▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. |
| **Body protection** | See Other protection below |
| **Other protection** | ▸ Overalls.<br>▸ P.V.C apron.<br>▸ Barrier cream.<br>▸ Skin cleansing cream.<br>▸ Eye wash unit. |

### Recommended material(s)

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:
***"Forsberg Clothing Performance Index".***
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
NS-2196-G

| Material | CPI |
|---|---|
| BUTYL | A |
| BUTYL/NEOPRENE | A |
| PE/EVAL/PE | A |
| PVDC/PE/PVDC | A |
| SARANEX-23 | A |
| SARANEX-23 2-PLY | A |
| TEFLON | A |
| VITON/NEOPRENE | A |
| NEOPRENE | B |
| NAT+NEOPR+NITRILE | C |
| NATURAL RUBBER | C |
| NATURAL+NEOPRENE | C |
| NEOPRENE/NATURAL | C |
| NITRILE | C |
| PVA | C |
| PVC | C |

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
**NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection

Type AX 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 5 x ES | AX-AUS / Class 1 | - | AX-PAPR-AUS / Class 1 |
| up to 25 x ES | Air-line* | AX-2 | AX-PAPR-2 |
| up to 50 x ES | - | AX-3 | - |
| 50+ x ES | - | Air-line** | - |

* - Continuous-flow; ** - Continuous-flow or positive pressure demand
^ - 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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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

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| **Appearance** | Tan grease, bland odor |

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

## SECTION 10 Stability and reactivity

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

## SECTION 11 Toxicological information

### Information on toxicological effects

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|---|---|
| **Inhaled** | The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.<br>Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision. Continued or severe exposures may cause damage to optic nerves, which may become severe with permanent visual impairment even blindness resulting.<br>**WARNING**: Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison which cannot be made non-harmful [*CCINFO*] |
| **Ingestion** | **Toxic effects** may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.<br>Methanol may produce a burning or painful sensation in the mouth, throat, chest, and stomach. This may be accompanied by nausea, vomiting, headache, dizziness, shortness of breath, weakness, fatigue, leg cramps, restlessness, confusion, drunken behaviour, visual disturbance, drowsiness, coma and death. |
| **Skin Contact** | There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>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. |
| **Eye** | 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).<br>Methanol is a mild to moderate eye irritant. High vapor concentration or liquid contact with eyes causes irritation, tearing, and burning.<br>Direct contact of the eye with ethanol may cause immediate stinging and burning with reflex closure of the lid and tearing, transient injury of the corneal epithelium and hyperaemia of the conjunctiva. |
| **Chronic** | Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.<br>Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. Liver and/or kidney injury may also result.<br>There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. |

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| | Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. |

| | | |
|---|---|---|
| **NS-2196-G** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |
| **N-alkylated benzotriazole** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >2000 mg/kg[2] | Not Available |
| | Oral (Rat) LD50; 3300 mg/kg[2] | |
| **methanol** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: 15800 mg/kg[2] | Eye (rabbit): 100 mg/24h-moderate |
| | Inhalation(Rat) LC50; 64000 ppm4h[2] | Eye (rabbit): 40 mg-moderate |
| | Oral (Rat) LD50; 5628 mg/kg[2] | Eye: no adverse effect observed (not irritating)[1] |
| | | Skin (rabbit): 20 mg/24 h-moderate |
| | | Skin: no adverse effect observed (not irritating)[1] |
| ***Legend:*** | *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* | |

| | |
|---|---|
| **N-ALKYLATED BENZOTRIAZOLE** | *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 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<br>For benzotriazoles<br>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.<br>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.<br>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 (<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<br>For phenolic benzotriazoles<br>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 <0.5 to ~5685 mg/kg/day<br>**Reproductive and teratology effects**: 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.<br>**Genotoxicity** None of the tested compounds were identified as mutagenic in vitro in the absence or presence of a metabolic system (S9) or in vivo<br>Chemical Information Review Document for Phenolic Benzotriazoles: Supporting Nomination for Toxicological Evaluation by the National Toxicology Program October 2011<br>http://ntp.niehs.nih.gov/ntp/noms/support_docs/phenolicbenzotriazoles_cird_oct2011_508.pdf<br>No significant acute toxicological data identified in literature search. |
| **METHANOL** | The material may cause 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. |
| **NS-2196-G & N-ALKYLATED BENZOTRIAZOLE** | The following information refers to contact allergens as a group and may not be specific to this product.<br>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. |

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| | | | |
|---|---|---|---|
| **Acute Toxicity** | ✔ | **Carcinogenicity** | ✘ |
| **Skin Irritation/Corrosion** | ✘ | **Reproductivity** | ✘ |
| **Serious Eye Damage/Irritation** | ✘ | **STOT - Single Exposure** | ✘ |
| **Respiratory or Skin sensitisation** | ✔ | **STOT - Repeated Exposure** | ✘ |
| **Mutagenicity** | ✘ | **Aspiration Hazard** | ✘ |

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

## SECTION 12 Ecological information

### Toxicity

**NS-2196-G**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**N-alkylated benzotriazole**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50(ECx) | 24h | Crustacea | 1.4mg/l | Not Available |
| LC50 | 96h | Fish | 1.3mg/l | Not Available |

**methanol**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| NOEC(ECx) | 720h | Fish | 0.007mg/L | 4 |
| EC50 | 48h | Crustacea | >10000mg/l | 2 |
| LC50 | 96h | Fish | 290mg/l | 2 |
| EC50 | 96h | Algae or other aquatic plants | 14.11-20.623mg/l | 4 |

***Legend:*** *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*

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

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| methanol | LOW | LOW |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| methanol | LOW (BCF = 10) |

### Mobility in soil

| Ingredient | Mobility |
|---|---|
| methanol | HIGH (KOC = 1) |

## SECTION 13 Disposal considerations

### Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ▸ Recycle wherever possible or consult manufacturer for recycling options.<br>▸ Consult State Land Waste Management Authority for disposal. |

## SECTION 14 Transport information

### Labels Required

| | |
|---|---|
| **Marine Pollutant** | NO |

**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 |
|---|---|

**Continued...**

| Product name | Group |
|---|---|
| N-alkylated benzotriazole | Not Available |
| methanol | Not Available |

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

| Product name | Ship Type |
|---|---|
| N-alkylated benzotriazole | Not Available |
| methanol | 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

**methanol is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List
US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
US - California Proposition 65 - Reproductive Toxicity
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US - Massachusetts - Right To Know Listed Chemicals
US Clean Air Act - Hazardous Air Pollutants
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Integrated Risk Information System (IRIS)
US EPCRA Section 313 Chemical List
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

### 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 | No |
| Acute toxicity (any route of exposure) | Yes |
| 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)**

| Name | Reportable Quantity in Pounds (lb) | Reportable Quantity in kg |
|---|---|---|
| methanol | 5000 | 2270 |

### State Regulations

**US. California Proposition 65**

**WARNING:** This product can expose you to chemicals including **methanol**, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

### National Inventory Status

| National Inventory | Status |
|---|---|

**Continued...**

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (N-alkylated benzotriazole; methanol) |
| 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) |
| Vietnam - NCI | Yes |
| Russia - FBEPH | Yes |
| ***Legend:*** | *Yes = All CAS declared ingredients are on the inventory*<br>*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** | 08/08/2022 |
| **Initial Date** | 08/09/2022 |

### 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 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
AIIC: 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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**end of SDS**