



SAFETY DATA SHEET

BROWNOUT

Infosafe No.: X01E4
Version No.: 3.0
ISSUED Date : 14/08/2023
ISSUED by: DKSH AGRISOLUTIONS NEW
ZEALAND LIMITED

Section 1 - Identification

Product Identifier

BROWNOUT

Product Code

140010647

Company Name

DKSH AGRISOLUTIONS NEW ZEALAND LIMITED

Address

119 Carbine Road, Mt Wellington, Auckland 1060
NEW ZEALAND

Telephone/Fax Number

Telephone: +64 9 2593777

Emergency Phone Number

0800 154 666

Email

regaffairs.anz@dksh.com

Recommended uses and any restrictions on use or supply

A tank mix adjuvant to improve Brownout and rainfastness of Glyphosate herbicides.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture

Classified as Hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020, New Zealand.

Classified as Dangerous Goods for transport according to the New Zealand Standard NZS 5433:2020 Transport of Dangerous Goods on Land.

Flammable liquids: Category 3

Skin corrosion/irritation: Category 2

Serious eye damage Category 1

Skin sensitization: Category 1

Reproductive toxicity: Category 1

Specific target organ toxicity – repeated exposure: Category 2

Aspiration hazard: Category 1

Hazardous to the aquatic environment acute Category 1

Hazardous to the aquatic environment chronic Category 1

Hazardous to the terrestrial environment: Hazardous to soil organisms

Signal Word (s)

DANGER

Hazard Statement (s)

H226 Flammable liquid and vapour

H304 May be fatal if swallowed and enters airways

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H360 May damage fertility or the unborn child.

H373 May cause damage to organs (liver) through prolonged or repeated exposure by ingestion

H410 Very toxic to aquatic life with long lasting effects

Pictogram (s)

Flame,Corrosion,Health hazard,Exclamation mark,Environment

**Precautionary Statement – Prevention**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash skin thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Precautionary Statement – Response

- P310 Immediately call a POISON CENTER/doctor.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P370+P378 In case of fire: Use carbon dioxide, dry chemical or foam to extinguish.
- P391 Collect spillage.
- P331 Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary Statement – Storage

- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

Precautionary Statement – Disposal

- P501 Dispose of contents/container to an approved waste disposal plant.

Section 3 - Composition and Information on Ingredients

Chemical Characterization

Liquid

Other Information

d-Limonene [5989-27-5]

Alternative CAS number: 68956-56-9, 8028-48-6, 68917-58-8, 68917-57-7, 68647-72-3, 65996-99-8.

Section 4 - First Aid Measures

Inhalation

If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

Ingestion

Do not induce vomiting. Wash out mouth and lips with water. Where vomiting occurs naturally have affected person place head below hip level in order to reduce risk of aspiration. Seek immediate medical attention.

Skin

Remove all contaminated clothing immediately. Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse or discard. Seek medical attention.

Eye

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

First-aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (0800 764 766)

Section 5 - Firefighting Measures

Suitable Extinguishing Media

Carbon dioxide, dry chemical or foam.

Unsuitable Extinguishing Media

Do not use water jet.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide and oxides of nitrogen.

Specific hazards arising from the chemical

Flammable liquid and vapour. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.

Decomposition Temperature

Not available

Precautions in connection with fire

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapours. This product should be prevented from entering drains and watercourses.

Section 6 - Accidental Release Measures

Emergency Procedures

Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

Section 7 - Handling and Storage

Precautions for Safe Handling

Avoid contact with skin and eyes. Wear overalls, impervious gloves and safety glasses. Use in designated areas with local exhaust ventilation, away from sparks, flames and other ignition sources. Use approved flammable liquid storage containers in the work area. Prevent release of vapours and mists into workplace air. Keep containers tightly closed. Take precautionary measures against static discharges. Do not empty into drains. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands before eating, drinking, smoking or using the toilet facilities.

Avoid exposure. Do not handle until all safety precautions have been read and understood. It is recommended that pregnant or breastfeeding women should not handle this product unless adequate exposure protection can be assured at all times. Female personnel planning pregnancy should be made aware of the potential risks.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from sources of ignition, foodstuffs, clothing and incompatible materials such as oxidising agents. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

Section 8 - Exposure Controls and Personal Protection

Occupational Exposure Limits (OEL)

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
N- Methyl- 2- pyrrolidone	NZ OELs List	TWA	25	PPM	skin
N- Methyl- 2- pyrrolidone	NZ OELs List	TWA	103	MG/M3	skin
N- Methyl- 2- pyrrolidone	NZ OELs List	STEL	75	PPM	skin
N- Methyl- 2- pyrrolidone	NZ OELs List	STEL	309	MG/M3	skin
Solvent naphtha (petroleum) , heavy aromatic	NZ OELs List	TWA	5	MG/M3	Oil mist, mineral
Solvent naphtha (petroleum) , heavy aromatic	NZ OELs List	STEL	10	MG/M3	Oil mist, mineral

Biological Limit Values

Name: N-methyl-2-pyrrolidone

Determinant: 5-Hydroxy-N-methyl-2-pyrrolidone in urine

BEI®: 100 mg/L

Sampling time: End of shift.

Source: American Conference of Industrial Hygienists (ACGIH)

Other Exposure Information

Ethoxylated nonylphenol

Control Banding Rating: E

Occupational Exposure Band Limit: ≤ 0.1 ppm

Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn. Refer to relevant regulations for further information concerning ventilation requirements.

Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 60079.10.1 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Yellow-brown liquid
Colour	Yellow-brown	Odour	Not available
Decomposition Temperature	Not available	Melting Point	Not available
Boiling Point	215 °C (101.3 kPa)	Solubility in Water	0.905
pH	Acidic	Vapour Pressure	Not available
Vapour Density (Air=1)	Not available	Evaporation Rate	Not available
Odour Threshold	Not available	Viscosity	Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity
Volatile Component	Not available	Partition Coefficient: n-octanol/water	Not available
Flash Point	55 °C (Pensky-Martens Closed Cup) (ASTM D93A)	Flammability	Not flammable
Auto-Ignition Temperature	Not available	Flammable Limits - Lower	Not available
Flammable Limits - Upper	Not available	Explosion Properties	Not available
Oxidising Properties	Not available	Kinematic Viscosity	Not available
Dynamic Viscosity	Not available	Particle Characteristics	Not available

Section 10 - Stability and Reactivity

Reactivity

Based on the composition not expected to be reactive.

Chemical Stability

Stable under normal conditions of storage and handling.

Conditions to Avoid

Heat, open flames and other sources of ignition.

Incompatible Materials

Strong oxidising agents.

Hazardous Decomposition Products

Thermal decomposition may result in the release of toxic and/or irritating fumes including: oxides of nitrogen, carbon monoxide and carbon dioxide.

Possibility of hazardous reactions

Reacts with incompatible materials.

Hazardous Polymerization

Not available

Section 11 - Toxicological Information

Toxicology Information

Toxicity data for material given below.

Acute Toxicity - Oral

d-Limonene

LD50 (rat): 4400 - 5200 mg/kg

Ingestion

May be fatal if swallowed and enters airways. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause severe pulmonary injury that may lead to death. May cause irritation to the mouth, throat, esophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

Inhalation

Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

Skin

Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis. May cause an allergic skin reaction.

Eye

Causes serious eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.

Respiratory Sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

May cause an allergic skin reaction.

Germ Cell Mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Not considered to be a carcinogenic hazard.

d-Limonene is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Highly refined mineral oil is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Reproductive Toxicity

May damage fertility or the unborn child. Classified as a Known or presumed human reproductive or developmental toxicant.

STOT - Single Exposure

Not expected to cause toxicity to a specific target organ.

STOT - Repeated Exposure

May cause damage to organs (liver) through prolonged or repeated exposure by ingestion.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Section 12 - Ecological Information

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Hazardous to the terrestrial environment: Hazardous to soil organisms

Persistence and degradability

d-Limonene

Partially biodegradable.

Mobility

Not available

Bioaccumulative Potential

d-Limonene

High bioaccumulative potential.

Other Adverse Effects

Not available

Environmental Protection

Do not discharge this material into waterways, drains and sewers.

Acute Toxicity - Fish

d-Limonene

LC50 (Pimephales promelas): 0.619 - 0.796 mg/l/96h

Acute Toxicity - Daphnia

d-Limonene

EC50 (Daphnia magna): 0.577 mg/l/48h

Hazardous to the Ozone Layer

This product is not expected to deplete the ozone layer.

Section 13 - Disposal Considerations

Disposal Considerations

Dispose of waste according to applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Advise flammable nature. Empty containers may contain flammable residues. Do not cut, puncture or weld on or near containers. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected.

Product Disposal:

Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. This product can be disposed through a licensed commercial waste collection service. In this specific case the product is a flammable substance and therefore can be sent to an approved high temperature incineration plant for disposal.

Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this product. The ventilation requirements as specified in the same section must also be followed, and the precautions given in Section 7 of this SDS regarding handling must also be followed.

Do not dispose into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or surface waters may be affected.

In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal) Notice 2017. Further details regarding disposal can be obtained on the EPA New Zealand website under specific group standards.

Container Disposal:

The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a manner consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial waste collection service.

Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-hazardous.

In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or other consumers through a public or commercial waste collection service is a means of compliance with regulations.

Section 14 - Transport Information

Transport Information

This product is classified as Dangerous Goods Class 3 Flammable Liquids

Must not be loaded in the same freight container or on the same vehicle with:

Class 1: Explosives

Division 2.1: Flammable gases

Division 2.3: Toxic gases

Division 4.2: Spontaneously combustible substances

Division 5.1: Oxidising substances

Division 5.2: Organic peroxides

Class 7: Radioactive materials unless specifically exempted

Must not be loaded in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

Division 4.3: Dangerous when wet substances

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

Division 4.2: Spontaneously combustible substances

Division 4.3: Dangerous when wet substances

Division 5.1: Oxidising substances

Division 5.2: Organic peroxides

Special Precautions for User

Not available

UN Number

2052

Proper Shipping Name

DIPENTENE SOLUTION

Hazard Class

3

Packing Group

III

Hazchem Code

3Y

UN Number (Air Transport, ICAO)

2052

IATA/ICAO Proper Shipping Name

DIPENTENE SOLUTION

IATA/ICAO Hazard Class

3

IATA/ICAO Packing Group

III

IATA/ICAO Symbol

Flammable Liquid

IMDG UN Number

2052

IMDG Proper Shipping Name

DIPENTENE SOLUTION

IMDG Hazard Class

3

IMDG Packing Group

III

IMDG Marine pollutant

Yes

IMDG EMS

F-E,S-E

Transport in Bulk

Not available

Section 15 - Regulatory Information

Regulatory Information

Classified as Hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020, New Zealand.

Group Standard: Additives, Process Chemicals and Raw Materials (Flammable) Group Standard 2020

HSNO Approval Number

HSR002495

Tolerable exposure limit (TEL)

Not available

Environmental exposure limit (EEL)

Not available

Certified Handler

Not available

Tracking

Not required

Controlled Substance Licence Requirements

Not available

Montreal Protocol

Not Listed

Stockholm Convention

Not Listed

Rotterdam Convention

Not Listed

Agricultural Compounds, including Veterinary Medicines (ACVM)

Not available

Global Inventory Status

Country/Region Inventory	Status Description	Country/Region Inventory	Status Description
New Zealand (NZIoC)	All components of this product are listed on the Inventory or exempted.		

Section 16 - Any Other Relevant Information**Date of preparation or last revision of SDS**

SDS Reviewed: August 2023, Supersedes: March 2023

Literature References

Hazardous Substances and New Organisms Act 1996.

Health and Safety at Work (Hazardous Substances) Regulations 2017.

Workplace Exposure Standards and Biological Exposure Indices.

Agricultural Compounds and Veterinary Medicines Act 1997.

Montreal Protocol on Substances that Deplete the Ozone Layer.

Stockholm Convention on Persistent Organic Pollutants (POPs).

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Transport of Dangerous goods on land NZS 5433.

Recommendations on the Transport of Dangerous Goods – Model Regulations.

Dangerous Goods Emergency Action Code List.

Hazardous Substances (Safety Data Sheets) Notice 2017. (EPA Consolidation)

Assigning a hazardous substance to a group standard.

Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

Contact Person/Point

IMPORTANT ADVICE: An SDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. The information contained in this SDS is believed to be correct but is not guaranteed. Prior to using the product(s) referred to in this SDS, each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace, including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the supplier listed in section 1 of the SDS. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request. SST does not accept any other liability either directly or indirectly for any losses suffered in connection with the use and application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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END OF SDS

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