

Diesel Biocide Safety Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - United Kingdom (UK)

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Busan 1072E
Physical state Liquid.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Industry - Fuel

Product use Biocide

SECTION 1: Identification of the substance/mixture and of the company/undertaking

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317

Repr. 2, H361fd (Fertility and Unborn child) (dermal)

Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.











2.2 Label elements

Hazard pictograms



Signal word Danger

Hazard statements H330 - Fatal if inhaled. H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction.

H361fd - Suspected of damaging fertility in contact with skin. Suspected of

damaging the unborn child in contact with skin.

H400 - Very toxic to aquatic life.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention P201 - Obtain special instructions before use.

P280 - Wear protective gloves. Wear protective clothing. Wear eye or face

protection.

P273 - Avoid release to the environment. P260 - Do not breathe vapour or spray.

Response P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep

comfortable for breathing. Immediately call a POISON CENTER or physician. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or

physician. Do NOT induce vomiting.

P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER

or physician.

P305 + P310 - IF IN EYES: Immediately call a POISON CENTER or physician.

Storage P405 - Store locked up.

Disposal P501 - Dispose of contents and container in accordance with all local, regional,

national and international regulations.

Busan 1072E

SECTION 2: Hazards identification

Hazardous ingredients 2-(2-methoxyethoxy)ethanol

Alcohols, C9-11-iso-, C10-rich, ethoxylated (benzothiazol-2-ylthio)methyl thiocyanate

methylene dithiocyanate Amides, tall-oil fatty, N,N-di-Me

Supplemental label

elements

Not applicable.











2.3 Other hazards

Other hazards which do not result in classification

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Mixture

			Classification	Type
Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	
2-(2-methoxyethoxy) ethanol	REACH #: 01-2119475100-52 EC: 203-906-6 CAS: 111-77-3 Index: 603-107-00-6	≥25 - ≤50	Repr. 2, H361d (Unborn child)	[1] [2]
Alcohols, C9-11-iso-, C10-rich, ethoxylated	CAS: 78330-20-8	≤10	Acute Tox. 4, H302 Eve Dam. 1, H318	[1]
(benzothiazol-2-ylthio) methyl thiocyanate	EC: 244-445-0 CAS: 21564-17-0 Index: 613-119-00-3	≤10	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)	[1]
methylene dithiocyanate	EC: 228-652-3 CAS: 6317-18-6 Index: 615-020-00-0	≤10	Acute Tox. 3, H301 Acute Tox. 1, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aguatic Acute 1, H400 (M=10)	[1]
Amides, tall-oil fatty, N, N-di-Me	REACH #: 01-2119983524-29 EC: 269-665-4 CAS: 68308-74-7	≤3	Skin Sens. 1B, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 3, H412	[1]
2-methoxyethanol	REACH #: 01-2119494721-33 EC: 203-713-7 CAS: 109-86-4 Index: 603-011-00-4	≤0.1	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Repr. 1B, H360FD (Fertility and Unborn child) See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

<u>Type</u>

Product name:

Busan 1072E

SECTION 3: Composition/information on ingredients

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.











SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact Get medical attention immediately. Immediately flush eyes with plenty of water,

occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated

promptly by a physician.

Inhalation Get medical attention immediately. Remove victim to fresh air and keep at rest in a

position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person

may need to be kept under medical surveillance for 48 hours.

Skin contact Get medical attention immediately. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with

contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse.

Clean shoes thoroughly before reuse.

Ingestion Get medical attention immediately. Wash out mouth with water. Remove dentures

if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If necessary, call a poison center or physician. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a

collar, tie, belt or waistband.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. If it

is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing

thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact Adverse symptoms may include the following:

pain watering redness

Inhalation No specific data.











Busan 1072E

SECTION 4: First aid measures

Skin contact Adverse symptoms may include the following:

pain or irritation

redness

blistering may occur reduced foetal weight increase in foetal deaths skeletal malformations

Ingestion Adverse symptoms may include the following:

stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing

media

None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture In a fire or if heated, a pressure increase will occur and the container may burst.

This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water containing the container with this material must be contained.

long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion

products

Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

Danger for decomposition with formation of HCN

5.3 Advice for firefighters

Special precautions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without

suitable training.

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.











Busan 1072E

SECTION 6: Accidental release measures

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Spill

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations Industrial sector specific solutions Not available. Not available.











Busan 1072E

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
2-(2-methoxyethoxy)ethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 50.1 mg/m³ 8 hours.
2-methoxyethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.
	TWA: 1 ppm 8 hours. TWA: 3 mg/m³ 8 hours.

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
2-(2-methoxyethoxy)ethanol	DNEL	Long term Inhalation	50.1 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	2.22 mg/ kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	30.1 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Dermal	1.33 mg/ kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Oral	7.5 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	1.33 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Dermal	2.22 mg/ kg bw/day	Workers	Systemic
	DNEL	Long term Oral	7.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	30.1 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	50.1 mg/m ³	Workers	Systemic
Amides, tall-oil fatty, N,N-di-Me	DNEL	Long term Inhalation	0.6 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	0.2 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	0.061 mg/ cm ²	Workers	Local
	DNEL	Short term Dermal	0.061 mg/	Workers	Local











Busan 1072E

SECTION 8: Exposure controls/personal protection

DECTION OF EXPONENT COM	. о.о.р	organizat broto			
			cm ²		
	DNEL	Long term	0.15 mg/m ³	General	Systemic
		Inhalation		population	
				[Consumers]	
	DNEL	Long term Dermal	0.1 mg/kg	General	Systemic
	DIVLL	Long term berman	bw/day	population	Cystollic
			DWiday	[Consumers]	
	DNEL	Lana tama Damasi	0.03 ma/		Local
	DINEL	Long term Dermal		General	Local
			cm ²	population	
				[Consumers]	
	DNEL	Short term Dermal	0.03 mg/	General	Local
			cm ²	population	
				[Consumers]	
	DNEL	Long term Oral	0.1 mg/kg	General	Systemic
	_		bw/day	population	,
				[Consumers]	
	DNEI	Long term Oral	0.1 mg/kg	General	Systemic
	DIVEL	Long term Oral	bw/day		Gyalennic
	DNIEL	Long toms Domest		population	Customic
	DINEL	Long term Dermal	0.1 mg/kg	General	Systemic
		l	bw/day	population	
	DNEL	Long term	0.15 mg/m ³		Systemic
		Inhalation		population	
	DNEL	Long term Dermal	0.2 mg/kg	Workers	Systemic
			bw/day		
	DNEL	Long term	0.6 mg/m³	Workers	Systemic
		Inhalation			
	DNEL	Short term Dermal	0.03 ma/	General	Local
	DIVILLE	Chart torri Dorrilar	cm ²	population	Local
	DNEL	Long torm Dormal	0.03 ma/	General	Local
	DINEL	Long term Dermal			Local
	DAIS	Observations Desired	cm²	population	Land
	DNEL	Short term Dermal	0.061 mg/	Workers	Local
			cm ²		
	DNEL	Long term Dermal	0.061 mg/	Workers	Local
			cm ²		
2-methoxyethanol	DNEL	Long term	3.2 mg/m3	Workers	Systemic
		Inhalation	2.2		-,
	DNEL	Long term Dermal	0.91 mg/	Workers	Systemic
	DIVLL	Long term Dermai	kg bw/day	TTOTAGES	Cysternic
	DNIEL	Long torm Oral		Conoral	Customic
	DINEL	Long term Oral	0.55 mg/	General	Systemic
			kg bw/day	population	
				[Consumers]	
	DNEL	Long term Oral	0.55 mg/	General	Systemic
			kg bw/day	population	
	DNEL	Long term Dermal	0.91 mg/	Workers	Systemic
			kg bw/day		_
	DNEL	Long term	3.2 mg/m³	Workers	Systemic
		Inhalation	2.2.119111		-,
		II II I CIGUOTI			

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
2-(2-methoxyethoxy)ethanol	-	Sewage Treatment Plant	10000 mg/l	-
	-	Fresh water	12 mg/l	-
	-		1.2 mg/l 44.4 mg/kg dwt	-
	-	Marine water sediment	4.44 mg/kg dwt	-
	-	Soil	2.1 mg/kg dwt	-











Busan 1072E

SECTION 8: Exposure controls/personal protection

8.2 Exposure controls

Appropriate engineering controls Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. 1 - 4 hours (breakthrough time): Recommended: Chemical-resistant gloves. (nitrile, neoprene, polyvinyl chloride (PVC), butyl rubber)

Body protection

: Wear suitable protective clothing, gloves and eye/face protection. Recommended: Wear work clothing with long sleeves. Chemical-resistant protective suit.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear protective shoes.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: full-face mask. Filter type: organic vapour filter (Type A), inorganic gases/vapours filter (Type B), acid gas filter (Type E), ammonia (Type K) and particulate filter.

Environmental exposure

controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state Liquid.

Colour clear to hazy, amber liquid

Odour Not available.
Odour threshold Not available.
pH Not applicable.

Melting point/freezing point 0°C











Busan 1072E

SECTION 9: Physical and chemical properties

Initial boiling point and

boiling range

Flash point Closed cup: 96°C Evaporation rate Not available. Vapour pressure Not available.

Not available. Vapour density Relative density Not available.

Density 0.97 to 0.99 g/cm3 [25°C (77°F)]

Solubility(ies) Not available. Solubility in water Not available. Not available. Partition coefficient: n-octanol/

water

Auto-ignition temperature Not available Decomposition temperature Not available.

Viscosity Dynamic (room temperature): 0 to 10 mPa-s

Explosive properties Not available. Oxidising properties Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid No specific data.

10.5 Incompatible materials No specific data.

10.6 Hazardous decomposition products Danger for decomposition with formation of HCN

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2-(2-methoxyethoxy)ethanol	LD50 Dermal	Rabbit - Male	9404 mg/kg	-
Alcohols, C9-11-iso-,	LD50 Dermal	Rat	>2000 mg/kg	-
C10-rich, ethoxylated				
	LD50 Oral	Rat	1360 mg/kg	-
(benzothiazol-2-ylthio)	LC50 Inhalation Dusts and	Rat - Male,	0.0671 mg/l	4 hours
methyl thiocyanate	mists	Female	Active ingredient:	
			80%	
	LD50 Dermal	Rabbit	10 g/kg	-
1	LD50 Dermal	Rat	>5 a/kg	-











Busan 1072E

SECTION 11: Toxicological information

	ogioai illiorilliation			
	LD50 Oral	Rat	717 mg/kg Active ingredient: 80%	-
methylene dithiocyanate	LC50 Inhalation Dusts and mists	Rat	0.0032 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	81.4 mg/kg	-
Amides, tall-oil fatty, N,N-di- Me	LD50 Dermal	Mouse	>5000 mg/kg	-
	LD50 Dermal	Rabbit - Male	7128 mg/kg Based on similar product. (Active ingredient: 90%	-
	LD50 Oral	Rabbit	>5000 mg/kg Based on	-
	LD50 Oral	Rat - Female	similar product. 5000 to 10000 mg/kg Based on similar product. (Active ingredient: 90%	-
2-methoxyethanol	LD50 Dermal LD50 Oral	Rabbit Rat	1280 mg/kg 2370 mg/kg	-

Conclusion/Summary

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Alcohols, C9-11-iso-, C10-rich, ethoxylated	Skin - Not irritating	Rabbit	-	-	-
(benzothiazol-2-ylthio) methyl thiocyanate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
Amides, tall-oil fatty, N,N-di- Me	Eyes - Cornea opacity	Rabbit	0	-	-
	Eyes - Iris lesion	Rabbit	0	-	-
	Eyes - Redness of the conjunctivae	Rabbit	0	-	48 hours
	Eyes - Redness of the conjunctivae	Rabbit	0.3	-	24 hours
2-methoxyethanol	Eyes - Mild irritant	Guinea pig	-	10 ug	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
	Skin - Mild irritant	Rabbit	-	mg 24 hours 483 mg	-

Conclusion/Summary

Not available.

Sensitiser

Product/ingredient name	Route of exposure	Species	Result
2-(2-methoxyethoxy)ethanol Amides, tall-oil fatty, N,N-di- Me		Guinea pig Mouse	Not sensitizing Sensitising
2-methoxyethanol	skin	Guinea pig	Not sensitizing











Busan 1072E

SECTION 11: Toxicological information

Conclusion/Summary

Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
2-(2-methoxyethoxy)ethanol	OECD 471 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
Amides, tall-oil fatty, N,N-di- Me	OECD 471 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
2-methoxyethanol	OECD 471 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 475 475 Mammalian Bone Marrow Chromosomal Aberration Test	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary

Carcinogenicity

Conclusion/Summary Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure	
methylene dithiocyanate	-	Negative	-	Rat	Oral	-	

Conclusion/Summary

Not available.

Not available.

Developmental toxicity

Conclusion/Summary Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely

Not available.

routes of exposure

Potential acute health effects

Inhalation Fatal if inhaled. May give off gas, vapour or dust that is very irritating or corrosive to

the respiratory system.

Ingestion Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact Causes severe burns. May cause an allergic skin reaction.

Eye contact Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation No specific data.











Busan 1072E

SECTION 11: Toxicological information

Ingestion Adverse symptoms may include the following:

stomach pains

Skin contact Adverse symptoms may include the following:

pain or irritation redness

blistering may occur reduced foetal weight increase in foetal deaths skeletal malformations

Eye contact Adverse symptoms may include the following:

pain watering redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate Not available.

effects

Potential delayed effects Not available.

Long term exposure

Potential immediate Not available.

effects

Potential delayed effects Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
2-(2-methoxyethoxy)ethanol	Sub-chronic NOAEL Oral	Rat - Male	900 mg/kg	6 weeks; 5 days per week
methylene dithiocyanate	Chronic NOAEL Oral	Rat - Male, Female	1 mg/kg	90 days
	Chronic NOEL Inhalation Vapour	Rat - Male, Female	0.0002 mg/l	90 days
Amides, tall-oil fatty, N,N-di- Me	Sub-acute NOAEL Oral	Rat	1000 mg/kg	14 days
	Chronic NOAEL Oral	Rat	50 mg/kg	-

Conclusion/Summary Not available.

General Once sensitized, a severe allergic reaction may occur when subsequently exposed

to very low levels.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity Suspected of damaging the unborn child in contact with skin.

Developmental effects No known significant effects or critical hazards.

Fertility effects Suspected of damaging fertility in contact with skin.

Other information Not available.

SECTION 12: Ecological information

12.1 Toxicity











SECTION 12: Ecological information

Product/ingredient name	Result	Species	Exposure
2-(2-methoxyethoxy)ethanol	Acute EC50 >500 mg/l	Algae	72 hours
	Acute EC50 >930 ppm Fresh water	Daphnia - Daphnia magna	48 hours
1	Acute LC50 5741 mg/l	Fish - Pimephales promelas	96 hours
Alcohols, C9-11-iso-,	Acute EC50 10 to 100 mg/l	Algae	72 hours
C10-rich, ethoxylated			Based on
1			similar
1	A +- FOFO 40 +- 400 !!	Danhair.	product.
	Acute EC50 10 to 100 mg/l	Daphnia	48 hours Based on
1			similar
			product.
	Chronic NOEC 1 to 10 mg/l	Daphnia	21 days
(benzothiazol-2-ylthio)	Acute EC50 0.43 mg/l Fresh water	Algae - Pseudokirchneriella	72 hours
methyl thiocyanate		subcapitata	
	Acute EC50 15.3 µg/l Fresh water	Crustaceans - Ceriodaphnia	48 hours
		dubia - Neonate	
1	Acute EC50 23 ppb Fresh water	Daphnia - Daphnia magna	48 hours
1	Acute LC50 7.3 µg/l Fresh water	Fish - Oncorhynchus	96 hours
1		tshawytscha - Juvenile	
1	Observice NOTO 0.24 mm/s	(Fledgling, Hatchling, Weanling)	CO deve
methylene dithiocyanate	Chronic NOEC 0.34 ppb Acute EC50 0.0115 mg/l	Fish - Oncorhynchus mykiss Algae - Pseudokirchneriella	60 days 72 hours
metriylerie ditrilocyariate	Acute EC50 0.0115 flig/l	subcapitata	72 Hours
	Acute EC50 42 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute EC50 39 ppb Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 89 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute NOEC 0.0026 mg/l	Daphnia - Crassostrea virginica	-
1	Acute NOEC 0.0095 mg/l	Fish - Oncorhynchus mykiss	-
Amides, tall-oil fatty, N,N-di-	Acute EC50 >32 mg/l	Algae	72 hours
Me			
	Acute EC50 0.75 mg/l	Daphnia	48 hours
	Acute EC50 >1000 mg/l Fresh water	Micro-organism	3 hours
1	Acute LC50 >1 mg/l	Fish Daphnia	96 hours
1	Chronic LOAEL >0.75 mg/l Chronic NEL 0.75 mg/l	Daphnia	21 days 21 days
2-methoxyethanol	Acute EC50 12000 mg/l	Algae - Selenastrum	72 hours
2 monoxycularior	7.00.0 E000 12000 IIIg/I	capricomutum	72 HOUIS
1	Acute EC50 27000 mg/l	Daphnia - Daphnia Magna	48 hours
1	Acute LC50 >100 ppm Fresh water	Fish - Lepomis macrochirus	96 hours

Conclusion/Summary

Not available.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
2-(2-methoxyethoxy)ethanol	OECD 301B OECD 301B 301B Ready Biodegradability - CO2 Evolution Test OECD 301F 301F Ready Biodegradability - Manometric Respirometry Test	80 to 90 % - Readily - 28 days	-	-
	OECD 301D	70 % - Readily - 28 days	-	-











Busan 1072E

SECTION 12: Ecological information

Alcohols, C9-11-iso-, C10-rich, ethoxylated	301D Ready Biodegradability - Closed Bottle Test OECD 301B 301B Ready Biodegradability - CO2 Evolution Test	>60 % - Readily - 28 days	-	-
methylene dithiocyanate	-	79 % - Readily - 30 days	-	-
	-	60 % - 28 days	-	-
Amides, tall-oil fatty, N,N-di- Me	OECD 301 301F Ready Biodegradability - Manometric Respirometry Test	69 % - Readily - 28 days	-	-

Conclusion/Summary

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-(2-methoxyethoxy)ethanol	-	-	Readily
Alcohols, C9-11-iso-,	-	-	Readily
C10-rich, ethoxylated	l	1	
(benzothiazol-2-ylthio)	l-	-	Not readily
methyl thiocyanate	l	1	
methylene dithiocyanate	l-	-	Readily
Amides, tall-oil fatty, N,N-di-	l-	-	Readily
Me	l	1	
2-methoxyethanol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2-(2-methoxyethoxy)ethanol (benzothiazol-2-ylthio) methyl thiocyanate			low
methylene dithiocyanate 2-methoxyethanol	0.34 -0.77		low low

12.4 Mobility in soil

Soil/water partition coefficient (Koc)

Not available.

Mobility Not available.

12.5 Results of PBT and vPvB assessment

PBT Not applicable. vPvB Not applicable.

12.6 Other adverse effects No known significant effects or critical hazards.











Busan 1072E

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of

all authorities with jurisdiction.

Hazardous waste

Methods of disposal

Packaging

The classification of the product may meet the criteria for a hazardous waste.

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered

when recycling is not feasible.

Special precautions This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out.

taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN2927	UN2927	UN2927	UN2927
14.2 UN proper shipping name	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. ((benzothiazol-2-ylthio) methyl thiocyanate, methylene dithiocyanate)	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. ((benzothiazol-2-ylthio) methyl thiocyanate, methylene dithiocyanate)	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. ((benzothiazol-2-ylthio) methyl thiocyanate, methylene dithiocyanate). Marine pollutant ((benzothiazol-2-ylthio) methyl thiocyanate, methylene dithiocyanate)	Toxic liquid, corrosive, organic, n.o.s. ((benzothiazol-2-ylthio) methyl thiocyanate, methylene dithiocyanate)
14.3 Transport hazard class(es)	6.1 (8)	6.1 (8)	6.1 (8)	6.1 (8)
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.











Busan 1072E

SECTION 14: Transport information

Additional information	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Hazard identification number 68 Limited quantity 100 ml Special provisions 274 Tunnel code (D/E) Transport Category:	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Special provisions 274, 802	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. Emergency. schedules F-A, S-B Special provisions 274	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Quantity limitation Passenger and Cargo Aircraft: 1 L. Packaging instructions: 653. Cargo Aircraft Only: 30 L. Packaging instructions: 660. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y640. Special provisions A4, A137
	2			

user

14.6 Special precautions for : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property			Date of revision
2-methoxyethanol	Toxic to reproduction	Recommended	ED/01/2018	10/1/2019

Other EU regulations

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
2-(2-methoxyethoxy) ethanol	-	-	Repr. 2, H361d (Unborn child)	-
2-methoxyethanol	-	-	Repr. 1B, H360D (Unborn child)	Repr. 1B, H360F (Fertility)

Ozone depleting substances (1005/2009/EU)

Ingredient name	Status
Not listed.	











Busan 1072E

SECTION 15: Regulatory information

Prior Informed Consent (PIC) (649/2012/EU)

Ingredient name	Annex	Status
Not listed.		

Biocidal products regulation (528/2012/EU)

Uses

Dose

PT 12: Slimicides.

Contact your local Buckman representative for applicable dosage.

Physical state Liquid.

Avoid exposure. After accidental exposure, seek immediate medical attention. Do not induce vomiting.

Product waste and emptied containers should be disposed of in accordance with local waste regulations. Do not reuse container.

Do not allow to enter drains or watercourses.

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still

required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and

acronyms

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.

1272/2008]

DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]











Busan 1072E

SECTION 16: Other information			
Classifica	ation	Justification	
Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 2, H361fd (Fertility and Unborn child) (dermal) Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411		Expert judgment	
Full text of abbreviated H statements	H226 H301 H302 H312 H314 H315 H317 H318 H319 H330 H332 H360FD H361d H361fd (dermal)	Flammable liquid and vapour. Toxic if swallowed. Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Causes serious eye irritation. Fatal if inhaled. Harmful if inhaled. May damage fertility. May damage the unborn child. Suspected of damaging the unborn child. Suspected of damaging fertility in contact with skin. Suspected of damaging the unborn child in contact with skin. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.	
Full text of classifications [CLP/GHS]	Aquatic Chronic 2, H411 Aquatic Chronic 3, H412 Eye Dam. 1, H318 Eye Irrit. 2, H319 Flam. Liq. 3, H226 Repr. 1B, H360FD Repr. 2, H361d	ACUTE TOXICITY (inhalation) - Category 1 ACUTE TOXICITY (inhalation) - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 3 REPRODUCTIVE TOXICITY (Fertility and Unborn child) - Category 1B REPRODUCTIVE TOXICITY (Unborn child) - Category 2 REPRODUCTIVE TOXICITY (Fertility and Unborn child) (dermal) - Category 2 SKIN CORROSION/IRRITATION - Category 1B SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1B	
Date of printing	10/03/2021	ONIT OLITON TON - Category ID	











Busan 1072E

SECTION 16: Other information

Date of issue/ Date of 19/02/2021

revision

 Date of previous issue
 19/02/2021

 Version
 5.11

This version supersedes any version issued before this date.

guarantee that these are the only hazards that exist.

Notice to reader

The information in this SDS is provided in good faith and to the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information relied upon to compile this SDS. This SDS relates only to the specific material designated herein and is not valid for use of the material in combination with any other material or outside the applications described herein. No warranty with regard to the properties of the material is hereby expressed or implied. Final determination of suitability for purpose of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot







