SAFETY DATA SHEET

MOTIVO KLARLACK 2080-50 - FARBLOS-INCOLORE-COLOURLESS

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

1.1 Product identifier

Product name : MOTIVO KLARLACK 2080-50 - FARBLOS-INCOLORE-COLOURLESS

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

e-mail address of person responsible for this SDS : Prod-safe@teknos.com

National contact

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

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]

Skin Sens. 1, H317

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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 : Warning

Hazard statements : H317 - May cause an allergic skin reaction.

Precautionary statements

Prevention : P280 - Wear protective gloves.
P261 - Avoid breathing vapour.

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

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Contains: 2,4,7,9-tetramethyl-5-decyne-4,7-diol; EO bis(benztriazolyl) phenylpropionat and reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)

SECTION 2: Hazards identification

Supplemental label elements :

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
2-Butoxyethanol	REACH #: 01-2119475108-36 EC: 203-905-0 CAS: 111-76-2 Index: 603-014-00-0	≤3	Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319	ATE [Oral] = 1200 mg/kg ATE [Inhalation (vapours)] = 3 mg/l	[1] [2]
2,4,7,9-tetramethyl-5-decyne-4,7-diol	REACH #: 01-2119954390-39 EC: 204-809-1 CAS: 126-86-3	≤0.3	Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412	-	[1]
Ammonia	REACH #: 01-2119488876-14 EC: 215-647-6 CAS: 1336-21-6 Index: 007-001-01-2	≤0.3	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400	STOT SE 3, H335: C ≥ 5% M [Acute] = 1	[1] [2]
EO bis(benztriazolyl) phenylpropionat	REACH #: 01-0000015075-76 EC: 400-830-7 CAS: 104810-48-2 Index: 607-176-00-3	≤0.3	Skin Sens. 1A, H317 Aquatic Chronic 2, H411	-	[1]
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	CAS: 55965-84-9 Index: 613-167-00-5	<0.001	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 EUH071	ATE [Oral] = 53 mg/kg ATE [Dermal] = 50 mg/kg ATE [Inhalation (vapours)] = 0.5 mg/l Skin Corr. 1C, H314: C ≥ 0.6% Eye Dam. 1, H318: C ≥ 0.6% Eye Irrit. 2, H319: 0.06% ≤ C < 0.6% Skin Sens. 1, H317: C ≥ 0.0015% M [Acute] = 100 M [Chronic] = 100	[1]

SECTION 3: Composition/information on ingredients

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

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, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : 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 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if adverse health effects persist or are severe. 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.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. 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. Get medical attention if adverse health effects persist or are severe. 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. 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 : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large 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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

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. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. 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. 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.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Ethyldiglycol	**Regulation on Limit Values - MAC (Austria, 4/2021).** PEAK: 140 mg/m³, 4 times per shift, 15 minutes. PEAK: 24 ppm, 4 times per shift, 15 minutes. TWA: 35 mg/m³ 8 hours. TWA: 6 ppm 8 hours.
2-Butoxyethanol	**Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin.** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. PEAK: 40 ppm, 4 times per shift, 30 minutes. PEAK: 200 mg/m³, 4 times per shift, 30 minutes.
Ammonia	**Regulation on Limit Values - MAC (Austria, 4/2021). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. PEAK: 50 ppm, 4 times per shift, 15 minutes. PEAK: 36 mg/m³, 4 times per shift, 15 minutes.
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	**Regulation on Limit Values - MAC (Austria, 4/2021). [5-chloro-2-methyl-2,3-dihydroisothiazol-3-one and 2-methyl-2,3-dihydroisothiazol-3-one (mixture in the ratio 3:1)] Skin sensitiser.** TWA: 0.05 mg/m³ 8 hours.

2-Butoxyethanol	**Limit values (Belgium, 5/2021). Absorbed through skin.** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.
Ammonia	**Limit values (Belgium, 5/2021). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Absorbed through skin.** Limit value 8 hours: 98 mg/m³ 8 hours. Limit value 15 min: 246 mg/m³ 15 minutes. Limit value 15 min: 50 ppm 15 minutes. Limit value 8 hours: 20 ppm 8 hours.
Ammonia	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). [Ammonia]** Limit value 8 hours: 14 mg/m³ 8 hours. Limit value 15 min: 36 mg/m³ 15 minutes. Limit value 15 min: 50 ppm 15 minutes. Limit value 8 hours: 20 ppm 8 hours.
2-Butoxyethanol	**Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). Absorbed through skin.** STELV: 246 mg/m³ 15 minutes. STELV: 50 ppm 15 minutes. ELV: 98 mg/m³ 8 hours. ELV: 20 ppm 8 hours.
Ammonia	**Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). [ammonia]** STELV: 36 mg/m³ 15 minutes. STELV: 50 ppm 15 minutes. ELV: 14 mg/m³ 8 hours. ELV: 20 ppm 8 hours.
2-Butoxyethanol	**Department of labour inspection (Cyprus, 7/2021). Absorbed through skin.** STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes. TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours.
Ammonia	**EU OEL (Europe, 1/2022). [ammonia, anhydrous] Notes: list of indicative occupational exposure limit values** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Absorbed through skin.** TWA: 100 mg/m³ 8 hours. TWA: 20.4 ppm 8 hours. STEL: 200 mg/m³ 15 minutes. STEL: 40.8 ppm 15 minutes.
Ammonia	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). [ammonia]** TWA: 14 mg/m³ 8 hours. STEL: 36 mg/m³ 15 minutes. TWA: 19.768 ppm 8 hours. STEL: 50.832 ppm 15 minutes.

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2-Butoxyethanol	**Working Environment Authority (Denmark, 6/2022). Absorbed through skin.** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
Ammonia	**Working Environment Authority (Denmark, 6/2022). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 36 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
2-Butoxyethanol	**Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin. Skin sensitiser.** TWA: 98 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
Ammonia	**Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [ammonia]** TWA: 14 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 36 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
2-Butoxyethanol	**EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.
Ammonia	**EU OEL (Europe, 1/2022). [ammonia, anhydrous] Notes: list of indicative occupational exposure limit values** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). Absorbed through skin.** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 250 mg/m³ 15 minutes.
Ammonia	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021).** TWA: 20 ppm 8 hours. Form: solution TWA: 14 mg/m³ 8 hours. Form: solution STEL: 50 ppm 15 minutes. Form: solution STEL: 36 mg/m³ 15 minutes. Form: solution
2-Butoxyethanol	**Ministry of Labor (France, 10/2022). Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)** TWA: 10 ppm 8 hours. TWA: 49 mg/m³ 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
Ammonia	**Ministry of Labor (France, 10/2022). [ammonia] Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)** TWA: 10 ppm 8 hours. TWA: 7 mg/m³ 8 hours. STEL: 20 ppm 15 minutes. STEL: 14 mg/m³ 15 minutes.

Ethyldiglycol	**DFG MAC-values list (Germany, 7/2022).** PEAK: 100 mg/m³, 4 times per shift, 15 minutes. Form: inhalable fraction TWA: 50 mg/m³ 8 hours. Form: inhalable fraction **TRGS 900 OEL (Germany, 6/2022).** TWA: 35 mg/m³ 8 hours. PEAK: 70 mg/m³ 15 minutes. TWA: 6 ppm 8 hours. PEAK: 12 ppm 15 minutes.
2-Butoxyethanol	**TRGS 900 OEL (Germany, 6/2022). Absorbed through skin.** TWA: 49 mg/m³ 8 hours. PEAK: 98 mg/m³ 15 minutes. TWA: 10 ppm 8 hours. PEAK: 20 ppm 15 minutes. **DFG MAC-values list (Germany, 7/2022). Absorbed through skin.** TWA: 10 ppm 8 hours. PEAK: 20 ppm, 4 times per shift, 15 minutes. TWA: 49 mg/m³ 8 hours. PEAK: 98 mg/m³, 4 times per shift, 15 minutes.
Ammonia	**TRGS 900 OEL (Germany, 6/2022). [ammonia]** TWA: 14 mg/m³ 8 hours. TWA: 20 ppm 8 hours. PEAK: 28 mg/m³ 15 minutes. PEAK: 40 ppm 15 minutes. **DFG MAC-values list (Germany, 7/2022). [Ammonia]** TWA: 20 ppm 8 hours. PEAK: 40 ppm, 4 times per shift, 15 minutes. TWA: 14 mg/m³ 8 hours. PEAK: 28 mg/m³, 4 times per shift, 15 minutes.
2-Butoxyethanol	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). Absorbed through skin.** TWA: 25 ppm 8 hours. TWA: 120 mg/m³ 8 hours.
Ammonia	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). [ammonia]** TWA: 50 ppm 8 hours. TWA: 35 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 35 mg/m³ 15 minutes.
2-Butoxyethanol	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser.** TWA: 98 mg/m³ 8 hours. PEAK: 246 mg/m³ 15 minutes. PEAK: 50 ppm 15 minutes. TWA: 20 ppm 8 hours.
Ammonia	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). [ammonia]** TWA: 14 mg/m³ 8 hours. PEAK: 36 mg/m³ 15 minutes. PEAK: 50 ppm 15 minutes. TWA: 20 ppm 8 hours.
2-Butoxyethanol	**Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin.** STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes. TWA: 100 mg/m³ 8 hours. TWA: 20 ppm 8 hours.
Ammonia	**Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [ammonia] Absorbed through skin.** STEL: 36 mg/m³ 5 minutes. STEL: 50 ppm 5 minutes. TWA: 14 mg/m³ 8 hours. TWA: 20 ppm 8 hours.

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2-Butoxyethanol	**NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values** OELV-8hr: 20 ppm 8 hours. OELV-8hr: 98 mg/m³ 8 hours. OELV-15min: 50 ppm 15 minutes. OELV-15min: 246 mg/m³ 15 minutes.
Ammonia	**NAOSH (Ireland, 5/2021). [ammonia, anhydrous] Notes: EU derived Occupational Exposure Limit Values** OELV-8hr: 20 ppm 8 hours. OELV-8hr: 14 mg/m³ 8 hours. OELV-15min: 50 ppm 15 minutes. OELV-15min: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin.** 8 hours: 20 ppm 8 hours. 8 hours: 98 mg/m³ 8 hours. Short Term: 50 ppm 15 minutes. Short Term: 246 mg/m³ 15 minutes.
Ammonia	**Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). [ammonia]** 8 hours: 20 ppm 8 hours. 8 hours: 14 mg/m³ 8 hours. Short Term: 50 ppm 15 minutes. Short Term: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). Absorbed through skin.** TWA: 98 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.
Ammonia	**Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). [ammonia]** TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes. TWA: 20 ppm 8 hours.
2-Butoxyethanol	**Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022). Absorbed through skin.** TWA: 50 mg/m³ 8 hours. TWA: 10 ppm 8 hours. STEL: 100 mg/m³ 15 minutes. STEL: 20 ppm 15 minutes.
Ammonia	**Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022). [ammonia]** TWA: 14 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 36 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
2-Butoxyethanol	**Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). Absorbed through skin.** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.
Ammonia	**Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.

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2-Butoxyethanol	**EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.
Ammonia	**EU OEL (Europe, 1/2022). [ammonia, anhydrous] Notes: list of indicative occupational exposure limit values** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). Absorbed through skin.** OEL, 8-h TWA: 100 mg/m³ 8 hours. STEL,15-min: 246 mg/m³ 15 minutes. OEL, 8-h TWA: 20.4 ppm 8 hours. STEL,15-min: 50 ppm 15 minutes.
Ammonia	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). [ammonia]** OEL, 8-h TWA: 14 mg/m³ 8 hours. STEL,15-min: 36 mg/m³ 15 minutes. STEL,15-min: 50 ppm 15 minutes. OEL, 8-h TWA: 20 ppm 8 hours.
2-Butoxyethanol	**FOR-2011-12-06-1358 (Norway, 12/2022). Absorbed through skin. Notes: indicative limit value** TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours.
Ammonia	**FOR-2011-12-06-1358 (Norway, 12/2022). [ammonia] Notes: indicative limit value** TWA: 15 ppm 8 hours. TWA: 11 mg/m³ 8 hours. **FOR-2011-12-06-1358 (Norway, 12/2022). [ammonia]** STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.
2-Butoxyethanol	**Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021). Absorbed through skin.** TWA: 98 mg/m³ 8 hours. STEL: 200 mg/m³ 15 minutes.
Ammonia	**Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021). [ammonia]** TWA: 14 mg/m³ 8 hours. STEL: 28 mg/m³ 15 minutes.
2-Butoxyethanol	**Portuguese Institute of Quality (Portugal, 11/2014).** TWA: 20 ppm 8 hours.
Ammonia	**Portuguese Institute of Quality (Portugal, 11/2014). [ammonia]** TWA: 25 ppm 8 hours. STEL: 35 ppm 15 minutes.
2-Butoxyethanol	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). Absorbed through skin.** VLA: 98 mg/m³ 8 hours. VLA: 20 ppm 8 hours. Short term: 246 mg/m³ 15 minutes. Short term: 50 ppm 15 minutes.
Ammonia	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). [ammonia]** VLA: 14 mg/m³ 8 hours.

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	VLA: 20 ppm 8 hours. Short term: 36 mg/m³ 15 minutes. Short term: 50 ppm 15 minutes.
2-Butoxyethanol	**Government regulation SR c. 355/2006 (Slovakia, 9/2020). Absorbed through skin.** TWA: 98 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
Ammonia	**Government regulation SR c. 355/2006 (Slovakia, 9/2020). [ammonia]** TWA: 14 mg/m³, (ammonia) 8 hours. TWA: 20 ppm, (ammonia) 8 hours. STEL: 36 mg/m³, (ammonia) 15 minutes. STEL: 50 ppm, (ammonia) 15 minutes.
Ethyldiglycol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).** KTV: 12 ppm, 4 times per shift, 15 minutes. TWA: 6 ppm 8 hours. KTV: 70 mg/m³, 4 times per shift, 15 minutes. TWA: 35 mg/m³ 8 hours.
2-Butoxyethanol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021). Absorbed through skin.** TWA: 98 mg/m³ 8 hours. TWA: 20 ppm 8 hours. KTV: 246 mg/m³, 4 times per shift, 15 minutes. KTV: 50 ppm, 4 times per shift, 15 minutes.
Ammonia	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021). [ammonia]** TWA: 14 mg/m³ 8 hours. TWA: 20 ppm 8 hours. KTV: 36 mg/m³, 4 times per shift, 15 minutes. KTV: 50 ppm, 4 times per shift, 15 minutes.
2-Butoxyethanol	**National institute of occupational safety and health (Spain, 4/2022). Absorbed through skin.** TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 245 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.
Ammonia	**National institute of occupational safety and health (Spain, 4/2022). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 36 mg/m³ 15 minutes.
Ethyldiglycol	**Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin.** TWA: 15 ppm 8 hours. TWA: 80 mg/m³ 8 hours. STEL: 30 ppm 15 minutes. STEL: 170 mg/m³ 15 minutes.
2-Butoxyethanol	**Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin.** TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.
Ammonia	**Work environment authority Regulation 2018:1 (Sweden, 9/2021). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours.

	STEL: 50 ppm 5 minutes. STEL: 36 mg/m³ 5 minutes.
Ethyldiglycol	**SUVA (Switzerland, 1/2023).** STEL: 100 mg/m³ 15 minutes. Form: Inhalable fraction of Vapor and aerosols TWA: 50 mg/m³ 8 hours. Form: Inhalable fraction of Vapor and aerosols
2-Butoxyethanol	**SUVA (Switzerland, 1/2023). Absorbed through skin.** TWA: 10 ppm 8 hours. TWA: 49 mg/m³ 8 hours. STEL: 20 ppm 15 minutes. STEL: 98 mg/m³ 15 minutes.
Ammonia	**SUVA (Switzerland, 1/2023). [ammonia]** TWA: 20 ppm 8 hours. TWA: 14 mg/m³ 8 hours. STEL: 40 ppm 15 minutes. STEL: 28 mg/m³ 15 minutes.
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	**SUVA (Switzerland, 1/2023). Skin sensitiser.** STEL: 0.4 mg/m³ 15 minutes. Form: Inhalable fraction TWA: 0.2 mg/m³ 8 hours. Form: Inhalable fraction
2-Butoxyethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** STEL: 50 ppm 15 minutes. TWA: 25 ppm 8 hours. STEL: 246 mg/m³ 15 minutes. TWA: 123 mg/m³ 8 hours.
Ethanediol	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** TWA: 10 mg/m³ 8 hours. Form: Particulate TWA: 20 ppm 8 hours. Form: Vapour STEL: 40 ppm 15 minutes. Form: Vapour TWA: 52 mg/m³ 8 hours. Form: Vapour STEL: 104 mg/m³ 15 minutes. Form: Vapour
Ammonia	**EH40/2005 WELs (United Kingdom (UK), 1/2020). [ammonia anhydrous]** STEL: 25 mg/m³ 15 minutes. Form: anhydrous STEL: 35 ppm 15 minutes. Form: anhydrous TWA: 25 ppm 8 hours. Form: anhydrous TWA: 18 mg/m³ 8 hours. Form: anhydrous
2-Ethoxyethanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.** TWA: 2 ppm 8 hours. TWA: 8 mg/m³ 8 hours.

Biological exposure indices

Product/ingredient name	Exposure indices
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
2-Butoxyethanol	**Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 9/2015)** Biological limit values: 0.17 mmol/mmol creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: the end of the shift at the end of the week. Biological limit values: 200 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: the end of the shift at

	the end of the week.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
2-Butoxyethanol	**DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228).** BEI: 150 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift / for long-term exposures: at the end of the shift after several shifts. **TRGS 903 - BEI Values (Germany, 2/2022)** BEI: 150 mg/g creatinine, butoxy acetic acid (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift; for long-term exposures: at the end of shift after several shifts.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
2-Butoxyethanol	**NAOSH (Ireland, 1/2011)** BMGV: 200 mg/g creatinine, BAA [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
2-Butoxyethanol	**Portuguese Institute of Quality (Portugal, 11/2014)** BEI: 200 mg/g creatinine, butoxyacetic acid (BAA) [in urine]. Sampling time: end of shift.
No exposure indices known.	
No exposure indices known.	
2-Butoxyethanol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021)** BAT: 150 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: at the end of the work shift, at long-term exposure: at the end of the work shift after several consecutive workdays.
2-Butoxyethanol	**National institute of occupational safety and health (Spain, 4/2022)** VLB: 200 mg/g creatinine, butoxyacetic acid [in urine]. Sampling time: end of shift.
No exposure indices known.	
2-Butoxyethanol	**SUVA (Switzerland, 1/2023)** BEI: 150 mg/g creatinine, 2-butoxy acetic acid (after hydrolisis) [in urine]. Sampling time: immediately after exposure or after working hours. In case of long-term exposure: after more than one shift.
2-Butoxyethanol	**EH40/2005 BMGVs (United Kingdom (UK), 8/2018)** BGV: 240 mmol/mol creatinine, butoxyacetic acid [in urine]. Sampling time: post shift.

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : 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-Butoxyethanol	DNEL	Long term Oral	6.3 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	26.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	59 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	98 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	147 mg/m³	General population	Local
	DNEL	Short term Inhalation	246 mg/m³	Workers	Local
	DNEL	Short term Inhalation	426 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	1091 mg/m³	Workers	Systemic
2,4,7,9-tetramethyl-5-decyne-4,7-diol	DNEL	Long term Oral	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.25 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.43 mg/m³	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Oral	0.75 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	0.75 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	1.29 mg/m³	General population	Systemic
	DNEL	Short term Dermal	1.5 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.76 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	5.28 mg/m³	Workers	Systemic
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	DNEL	Long term Inhalation	0.02 mg/m³	General population	Local
	DNEL	Long term Inhalation	0.02 mg/m³	Workers	Local
	DNEL	Short term Inhalation	0.04 mg/m³	General population	Local
	DNEL	Short term Inhalation	0.04 mg/m³	Workers	Local
	DNEL	Long term Oral	0.09 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	0.11 mg/kg bw/day	General population	Systemic

SECTION 8: Exposure controls/personal protection

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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: safety glasses with side-shields.

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.

Recommendations : Wear suitable gloves tested to EN374.

> 8 hours (breakthrough time): Nitrile gloves. thickness > 0.3 mm

Not recommended polyvinyl alcohol (PVA) gloves

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.

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.

Filter type (spray application): A P

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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Various

Odour : Slight

Odour threshold : Not available.

Melting point/freezing point : Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range :

Ingredient name	°C	°F	Method
water	100	212	
2-Butoxyethanol	171 to 171.5	339.8 to 340.7	IP 123-93

Flammability : Not available.

Lower and upper explosion limit : Lower: 1.2% (2-(2-ethoxyethoxy)ethanol)
Upper: 23.5% (2-(2-ethoxyethoxy)ethanol)

Flash point : Closed cup: >100°C (>212°F)

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Ethyldiglycol	204	399.2	
2-Butoxyethanol	230	446	DIN 51794

Decomposition temperature : Not available.

pH : 7.5 to 8

Viscosity : Not available.

Solubility(ies) :

Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3				
2-Butoxyethanol	0.75006	0.1				

Relative density : Not available.

Density : 1 g/cm³

Vapour density : Not available.

Explosive properties : Not available.

Oxidising properties : Not available.

Particle characteristics

Median particle size : Not applicable.

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 : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 10: Stability and reactivity

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ammonia reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	LD50 Oral LD50 Oral	Rat Rat	350 mg/kg 53 mg/kg	- -

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Route	ATE value
Oral Inhalation (vapours)	60000 mg/kg 150 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2-Butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
2,4,7,9-tetramethyl-5-decyne-4,7-diol	Eyes - Severe irritant	Rabbit	-	0.1 Ml	-
	Skin - Mild irritant	Rabbit	-	0.5 g	-
Ammonia	Eyes - Severe irritant	Rabbit	-	0.5 minutes 1 mg	-
	Eyes - Severe irritant	Rabbit	-	250 ug	-
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	Skin - Severe irritant	Human	-	0.01 %	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Sensitisation

Conclusion/Summary : May cause an allergic skin reaction.

Mutagenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Ammonia	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

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.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2-Butoxyethanol	Acute EC50 >1000 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - *Crangon crangon*	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - *Menidia beryllina*	96 hours
2,4,7,9-tetramethyl-5-decyne-4,7-diol	EC50 91 mg/l	Daphnia - *Daphnia magna*	48 hours
	LC50 42 mg/l	Fish - *Cyprinus carpio*	96 hours
Ammonia	Acute LC50 37 ppm Fresh water	Fish - *Gambusia affinis* - Adult	96 hours

Conclusion/Summary : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.2 Persistence and degradability

Conclusion/Summary : This product has not been tested for biodegradation.

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2-Butoxyethanol	0.81	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. 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.

European waste catalogue (EWC) : 08.01.19

Packaging

Methods of disposal : 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. 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 or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-

SECTION 14: Transport information

14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **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 Maritime transport in bulk according to IMO instruments : Not relevant/applicable due to nature of the product.

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

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
MOTIVO KLARLACK 2080-50	≥90	3

Labelling :

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Austria

VbF class : Not regulated.

Limitation of the use of organic solvents : Permitted.

Czech Republic

SECTION 15: Regulatory information

Storage code : IV

Denmark

Danish fire class : IV-1

MAL-code : 1-1

Protection based on MAL : **According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:**

General: Gloves must be worn for all work that may result in soiling. Apron/ coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required.

In all spraying operations in which there is return spray, the following must be worn: respiratory protection and arm protectors/apron/coveralls/protective clothing as appropriate or as instructed.

MAL-code: 1-1
Application: During downtimes, cleaning and repair in closed facilities, spray booths or cabins, if there is a risk of contact with wet paint or organic solvents.

- Gas filter mask must be worn.

When spraying in existing* spray booths, if the operator is outside the spray zone. - Full mask with combined filter and arm protectors must be worn.

During non-atomising spraying in existing* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone.

- Air-supplied half mask and eye protection must be worn.

During all spraying where atomisation occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

- Air-supplied half mask, eye protection, coveralls and hood must be worn.

Drying: Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc, must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

Polishing: When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

Caution The regulations contain other stipulations in addition to the above.

*See Regulations.

Restrictions on use : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.

List of undesirable substances : Not listed

Finland

France

Social Security Code, Articles L 461-1 to L 461-7 : 2-Butoxyethanol RG 84

SECTION 15: Regulatory information

Reinforced medical surveillance : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Germany

Storage class (TRGS 510) : 10

Hazardous incident ordinance

This product is not controlled under the Germany Hazardous Incident Ordinance.

Hazard class for water : 1

Technical instruction on air quality control : TA-Luft Number 5.2.5: 27.6%
TA-Luft Class I - Number 5.2.5: 0.1%

AOX : The product contains organically bound halogens and can contribute to the AOX value in waste water.

Italy

D.Lgs. 152/06 : Not determined.

Netherlands

Water Discharge Policy (ABM) : A(4) Low hazard for aquatic organisms, may have long-term hazardous effects in aquatic environment. Decontamination effort: A

Norway

Sweden

Switzerland

VOC content : Exempt.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

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
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
SGG = Segregation Group
vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Skin Sens. 1, H317	Calculation method

SECTION 16: Other information

Full text of abbreviated H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS]

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of issue/ Date of revision : 02/08/2024

Date of previous issue : No previous validation

Version : 1

MOTIVO KLARLACK 2080-50_FARBLOS-INCOLORE-COLOURLESS FARBLOS-INCOLORE-COLOURLESS

Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.