

SAFETY DATA SHEET
NITAL 3%
According to UK REACH.**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product name NITAL 3%

Product number 2420

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

Identified uses Laboratory chemicals

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Reagent Chemical Services
11b - 13 Aston Fields Road
Whitehouse Industrial Estate
Runcorn
Cheshire WA7 3DL
T: 01928 716903 (08.30 - 17.00)
F: 01928 716425
E: info@reagent.co.uk

1.4. Emergency telephone number

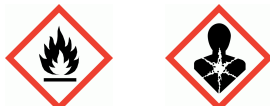
Emergency telephone OHES Environmental Ltd 24-7
Tel. 0333 333 9939 (24 hour)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification (EC 1272/2008)**

Physical hazards Flam. Liq. 2 - H225

Health hazards STOT SE 2 - H371

Environmental hazards Not Classified

2.2. Label elements**Hazard pictograms**

Signal word Danger

Hazard statements H225 Highly flammable liquid and vapour.
H371 May cause damage to organs .

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Precautionary statements	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P260 Do not breathe vapour/ spray.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P312 Call a POISON CENTRE/doctor if you feel unwell.</p>
Contains	METHANOL
Supplementary precautionary statements	<p>P233 Keep container tightly closed.</p> <p>P234 Keep only in original packaging.</p> <p>P240 Ground and bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use non-sparking tools.</p> <p>P243 Take action to prevent static discharges.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.</p> <p>P310 Immediately call a POISON CENTER/ doctor.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P332+P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P390 Absorb spillage to prevent material damage.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p> <p>P406 Store in a corrosion-resistant container with a resistant inner liner.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHANOL		60-100%
CAS number: 64-17-5	EC number: 200-578-6	REACH registration number: 01-2119457610-43-XXXX
Classification		
Flam. Liq. 2 - H225		

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METHANOL			1-5%
CAS number: 67-56-1	EC number: 200-659-6	REACH registration number: 01-2119433307-44-XXXX	
Classification			
Flam. Liq. 2 - H225			
Acute Tox. 3 - H301			
Acute Tox. 3 - H311			
Acute Tox. 3 - H331			
STOT SE 1 - H370			
NITRIC ACID ...%			1-5%
CAS number: 7697-37-2	EC number: 231-714-2	REACH registration number: 01-2119487297-23-XXXX	
Classification			
Ox. Liq. 2 - H272			
Met. Corr. 1 - H290			
Skin Corr. 1B - H314			
Eye Dam. 1 - H318			

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	First aid personnel should wear appropriate protective equipment during any rescue. Keep affected person away from heat, sparks and flames. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Remove any dentures. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Get medical attention immediately.
Skin contact	Rinse with water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 10 minutes. Get medical attention.

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Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

4.2. Most important symptoms and effects, both acute and delayed

General information See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation A single exposure may cause the following adverse effects: Headache. Prolonged or repeated exposure may cause the following adverse effects: May cause drowsiness or dizziness. Nausea, vomiting.

Ingestion May cause drowsiness or dizziness. Nausea, vomiting. Intoxication.

Skin contact A single exposure may cause the following adverse effects: May cause irritation. Repeated exposure may cause skin dryness or cracking.

Eye contact May cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up. Flammable liquid and vapour. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive mixtures with air. Fire-water run-off in sewers may create fire or explosion hazard.

Hazardous combustion products Toxic gases or vapours. Hydrocarbons. Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrous gases (NO_x). Alcohols.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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Personal precautions

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Evacuate area. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate.

6.2. Environmental precautions

Environmental precautions Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Do not allow material to enter confined spaces, due to the risk of explosion. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Do not empty into drains. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. The requirements of the local water authority must be complied with if contaminated water is flushed directly to the sewer. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In use may form flammable/explosive vapour-air mixture. Vapours may accumulate on the floor and in low-lying areas. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Eliminate all sources of ignition. Take precautionary measures against static discharges. Earth container and transfer equipment to eliminate sparks from static electricity. Keep away from oxidising materials, heat and flames. Store away from the following materials: Alkalis. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ETHANOL

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³ vapour

METHANOL

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 266 mg/m³(Sk)

Short-term exposure limit (15-minute): WEL 250 ppm(Sk) 333 mg/m³(Sk)

NITRIC ACID ...%

Long-term exposure limit (8-hour TWA): WEL

Short-term exposure limit (15-minute): WEL 1 ppm 2.6 mg/m³

WEL = Workplace Exposure Limit.

ETHANOL (CAS: 64-17-5)

DNEL	Workers - Inhalation; Long term systemic effects: 380 mg/m ³ Workers - Dermal; Long term systemic effects: 8238 mg/kg/day General population - Inhalation; Long term systemic effects: 114 mg/m ³
PNEC	- Fresh water; 0.96 mg/l - marine water; 0.79 mg/l - STP; 580 mg/l - Fresh water, Sediment; 3.6 mg/kg - marine water, Sediment; 2.9 mg/kg - Soil; 0.63 mg/kg

METHANOL (CAS: 67-56-1)

NITAL 3%**DNEL**

Workers - Inhalation; Long term systemic effects: 130 mg/m³
 Workers - Inhalation; Short term systemic effects: 130 mg/m³
 Workers - Inhalation; Long term local effects: 130 mg/m³
 Workers - Inhalation; Short term local effects: 130 mg/m³
 Workers - Dermal; Long term systemic effects: 20 mg/kg/day
 Workers - Dermal; Short term systemic effects: 20 mg/kg/day
 General population - Inhalation; Long term systemic effects: 26 mg/m³
 General population - Inhalation; Short term systemic effects: 26 mg/m³
 General population - Inhalation; Long term local effects: 26 mg/m³
 General population - Inhalation; Short term local effects: 26 mg/m³
 General population - Dermal; Long term systemic effects: 4 mg/kg/day
 General population - Dermal; Short term systemic effects: 4 mg/kg/day
 General population - Oral; Long term systemic effects: 4 mg/kg/day
 General population - Oral; Short term systemic effects: 4 mg/kg/day

PNEC

- Fresh water; 20.8 mg/l
 - marine water; 2.08 mg/l
 - STP; 100 mg/l
 - Sediment (Freshwater); 77 mg/kg
 - Sediment (Marinewater); 7.7 mg/kg
 - Soil; 100 mg/kg

NITRIC ACID ...% (CAS: 7697-37-2)**DNEL**

Workers - Inhalation; Long term local effects: 2.6 mg/m³
 Workers - Inhalation; Short term local effects: 2.6 mg/m³
 General population - Inhalation; Long term local effects: 1.3 mg/m³
 General population - Inhalation; Short term local effects: 1.3 mg/m³

8.2. Exposure controls**Protective equipment****Appropriate engineering controls**

Provide adequate ventilation. Personal, workplace environment 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. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilating equipment.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. It is recommended that gloves are made of the following material: Nitrile rubber. Butyl rubber. The selected gloves should have a breakthrough time of at least 8 hours. Thickness: > 0.1 mm Frequent changes are recommended. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use. 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	Liquid.
Colour	Colourless.
Odour	Alcoholic.
Odour threshold	No information available. No information available.
pH	pH (concentrated solution): <7
Melting point	-114°C
Initial boiling point and range	Approx. 78°C @ 760 mm Hg
Flash point	13-14°C
Evaporation rate	Not determined.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 19 % Volume Lower flammable/explosive limit: 3.3 % Volume
Vapour pressure	57.28 hPa @ 20°C
Vapour density	No information available. «59» «184»

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Relative density	0.79 @ 20°C
Solubility(ies)	Miscible with water.
Auto-ignition temperature	363 - 425°C
Decomposition Temperature	No information available.
Viscosity	1.2 mPa s @ 20°C
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.
Comments	This information refers to the main constituent, ethanol.

9.2. Other information

Other information	All available information has been included in section 9.1.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The following materials may react with the product: Oxidising agents.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	The following materials may react strongly with the product: Oxidising agents.
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat, flames and other sources of ignition. Containers can burst violently or explode when heated, due to excessive pressure build-up. Static electricity and formation of sparks must be prevented. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.
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10.5. Incompatible materials

Materials to avoid	Alkalis. Oxidising materials.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Does not decompose when used and stored as recommended.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg)	9,920.0
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Species	Rat
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Notes (oral LD₅₀)	Based on available data the classification criteria are not met.
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ATE oral (mg/kg)	2,631.58
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Acute toxicity - dermal

Notes (dermal LD₅₀)	Based on available data the classification criteria are not met.
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NITAL 3%

ATE dermal (mg/kg)	7,894.74
<u>Acute toxicity - inhalation</u>	
Species	Rat
Notes (inhalation LC₅₀)	Based on available data the classification criteria are not met.
ATE inhalation (vapours mg/l)	78.95
<u>Skin corrosion/irritation</u>	
Animal data	Based on available data the classification criteria are not met.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye irritation.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	None of the ingredients are listed or exempt.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	STOT SE 2 - H371 May cause damage to organs .
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
Target organs	Kidneys Liver
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>General information</u>	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Vapours may cause headache, fatigue, dizziness and nausea.
Ingestion	May cause drowsiness or dizziness. Nausea, vomiting. Intoxication. May cause severe internal injury. Unconsciousness, possibly death.
Skin contact	May cause irritation. Repeated exposure may cause skin dryness or cracking.
Eye contact	May cause irritation. Redness.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target organs	No specific target organs known.

NITAL 3%**Toxicological information on ingredients.****ETHANOL**

Toxicological effects	The toxicity of this substance has been assessed during REACH registration.
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	LD ₅₀ 10470 mg/kg, Oral, Rat
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	124.7
Species	Rat
ATE inhalation (vapours mg/l)	124.7
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Not irritating.
Animal data	Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Irritating
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	- Guinea pig: Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	NOAEC >1.3 mg/l, Inhalation, Rat
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	LOAEL 3200 mg/kg/day, Oral, Rat
Target organs	Kidneys
Inhalation	Vapours may cause drowsiness and dizziness.
Ingestion	May cause nausea, headache, dizziness and intoxication. May cause stomach pain or vomiting. Unconsciousness, possibly death.

NITAL 3%

Skin contact	May be absorbed through the skin. Product has a defatting effect on skin. May cause irritation.
Eye contact	Irritating to eyes.
Target organs	Central nervous system

METHANOL**Acute toxicity - oral**

Notes (oral LD₅₀) LD0 2528 mg/kg, Oral, Rat

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD₅₀) No information available.

ATE dermal (mg/kg) 300.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 43.68

Species Rat

Notes (inhalation LC₅₀) 6 hours REACH dossier information.

ATE inhalation (vapours mg/l) 3.0

Skin corrosion/irritation

Human skin model test No information available.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation No specific test data are available.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative.

Genotoxicity - in vivo Micronucleus assay: Negative.

Carcinogenicity

Carcinogenicity NOAEC >1.3 mg/l, Inhalation, Mouse

Reproductive toxicity

Reproductive toxicity - fertility Fertility - LOAEC 1000 mg/kg, Oral, Mouse P

Reproductive toxicity - development Developmental toxicity: - NOAEL: 5000 mg/l, Oral, Mouse

Specific target organ toxicity - single exposure

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STOT - single exposure Conclusive data but not sufficient for classification.

Target organs Central nervous system

Specific target organ toxicity - repeated exposure

STOT - repeated exposure LOAEC 1.3 mg/l, Inhalation, Rat

Target organs Central nervous system Eyes

Aspiration hazard

Aspiration hazard No information available.

Inhalation

Toxic by inhalation. A single exposure may cause the following adverse effects: Vapours may cause headache, fatigue, dizziness and nausea. Prolonged or repeated exposure may cause the following adverse effects: Central nervous system depression.

Ingestion

Toxic if swallowed. A single exposure may cause the following adverse effects: May cause nausea, headache, dizziness and intoxication. Prolonged or repeated exposure may cause the following adverse effects: Central nervous system depression. Unconsciousness, possibly death.

Skin contact

Toxic in contact with skin. May be absorbed through the skin. Prolonged skin contact may cause redness and irritation.

Eye contact

Irritating to eyes.

Route of exposure

Inhalation Skin absorption Ingestion.

Target organs

Central nervous system Eyes

NITRIC ACID ...%

Acute toxicity - oral

Notes (oral LD₅₀)

Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀)

Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀)

LC50 >2.65 mg/l, Inhalation, Rat Based on available data the classification criteria are not met. REACH dossier information.

Skin corrosion/irritation

Skin corrosion/irritation

Corrosive to skin.

Animal data

Skin Corr. 1B - H314 Causes severe burns.

Extreme pH

≤ 2 Corrosive.

Serious eye damage/irritation

Serious eye damage/irritation

Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation

Based on available data the classification criteria are not met.

Skin sensitisation

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Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
Genotoxicity - in vivo	No information available.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	None of the ingredients are listed or exempt.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Corrosive to the respiratory tract.
Target organs	Respiratory system, lungs
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not classified as a specific target organ toxicant after repeated exposure.
Target organs	Inhalation: Respiratory system, lungs
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.
<u>General information</u>	
General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.
Ingestion	May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of exposure	Ingestion Inhalation Skin and/or eye contact
Target organs	No specific target organs known.

SECTION 12: Ecological information

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

NITAL 3%**ETHANOL**

Ecotoxicity The ecotoxicity of this substance has been assessed during REACH registration

NITRIC ACID ...%

Ecotoxicity The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met.

Ecological information on ingredients.**ETHANOL****Acute aquatic toxicity**

Acute toxicity - fish LC₅₀, 96 hours: 15,300 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates LC₅₀, 48 hours: 12340 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 12900 mg/l, Selenastrum capricornutum

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates EC₅₀, 10 days: 454 mg/l, Daphnia magna

METHANOL**Acute aquatic toxicity**

Acute toxicity - fish LC₅₀, 96 hours: 15400 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic invertebrates EC₅₀, 96 hours: 18260 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 96 hours: 22000 mg/l, Pseudokirchneriella subcapitata

Acute toxicity - microorganisms EC₅₀, 15 hours: 20000 mg/l, Activated sludge

Acute toxicity - terrestrial NOEC, 35 days: 10000 mg/kg,

Chronic aquatic toxicity

Chronic toxicity - fish early life stage EC₅₀, 200 hours: 14536 mg/l, Oryzias latipes (Red killifish)

NITRIC ACID ...%

Toxicity Based on available data the classification criteria are not met.

Acute aquatic toxicity

Acute toxicity - fish , 96 hours: Median lethal pH 3 - 3.5 , Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic invertebrates Median lethal pH, 48 hours: pH 4.4 - 4.7 , Freshwater invertebrates

NITAL 3%

Acute toxicity - aquatic plants	Not available.
Acute toxicity - microorganisms	Not available.
Acute toxicity - terrestrial	Not available.
<u>Chronic aquatic toxicity</u>	
Chronic toxicity - fish early life stage	Not available.
Short term toxicity - embryo and sac fry stages	Not available.
Chronic toxicity - aquatic invertebrates	Not available.

12.2. Persistence and degradability

Persistence and degradability The product contains inorganic substances which are not biodegradable. The other substances in the product are expected to be readily biodegradable.

Ecological information on ingredients.**ETHANOL**

Phototransformation	Air - Half-life : 38 hours
Stability (hydrolysis)	Scientifically unjustified.
Biodegradation	Water - Degradation (%) 84: 20 days The substance is readily biodegradable.
Biological oxygen demand	No information available.
Chemical oxygen demand	1.99 g O ₂ /g substance

METHANOL

Phototransformation	Air - Degradation (%) 50: 17.2 days
Stability (hydrolysis)	Scientifically unjustified.
Biodegradation	Water - Degradation 82.7: 5 days The substance is readily biodegradable.
Biological oxygen demand	1.236 g O ₂ /g substance

NITRIC ACID ...%

Persistence and degradability	The degradability of the product is not known.
Phototransformation	Not available.
Stability (hydrolysis)	Scientifically unjustified.
Biodegradation	Scientifically unjustified.
Biological oxygen demand	Not relevant.

NITAL 3%

Chemical oxygen demand Not relevant.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Ecological information on ingredients.**ETHANOL**

Bioaccumulative potential BCF: 1 - 4.5, Bioaccumulation is unlikely.

Partition coefficient log Kow: -0.35

METHANOL

Bioaccumulative potential Scientifically unjustified. BCF: 1,

Partition coefficient log Pow: -0.77 REACH dossier information.

NITRIC ACID ...%

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems. The product contains volatile substances which may spread in the atmosphere.

Adsorption/desorption coefficient Expected to have a low potential for adsorption.

Ecological information on ingredients.**ETHANOL**

Mobility The product is miscible with water and may spread in water systems.

Adsorption/desorption coefficient Expected to have a low potential for adsorption.

Henry's law constant No specific test data are available.

METHANOL

Mobility The product is miscible with water and may spread in water systems.

Adsorption/desorption coefficient Expected to have a low potential for adsorption.

Henry's law constant 0.461 Pa m³/mol @ 25°C

Surface tension No specific test data are available.

NITRIC ACID ...%

Mobility The product is water-soluble and may spread in water systems.

Adsorption/desorption coefficient Scientifically unjustified.

NITAL 3%

Henry's law constant Not available.

Surface tension Not available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Ecological information on ingredients.**ETHANOL**

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

METHANOL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

NITRIC ACID ...%

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

Ecological information on ingredients.**ETHANOL**

Other adverse effects None known.

METHANOL

Other adverse effects None known.

NITRIC ACID ...%

Other adverse effects None known.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

NITAL 3%

Disposal methods

Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Vapour from residual product may create a highly flammable or explosive atmosphere inside the container. Containers should be thoroughly emptied before disposal because of the risk of an explosion. Do not cut or weld used containers unless they have been thoroughly cleaned internally.

SECTION 14: Transport information

General

For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number

UN No. (ADR/RID)	1170
UN No. (IMDG)	1170
UN No. (ICAO)	1170
UN No. (ADN)	1170

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (IMDG)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (ICAO)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (ADN)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

NITAL 3%**Environmentally hazardous substance/marine pollutant**

No.

14.6. Special precautions for user

EmS F-E, S-D

ADR transport category 2

Emergency Action Code •2YE

Hazard Identification Number 33
(ADR/RID)

Tunnel restriction code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

National regulations Health and Safety at Work etc. Act 1974 (as amended).
Control of Substances Hazardous to Health Regulations 2002 (as amended).
Dangerous Substances and Explosive Atmospheres Regulations 2002.
EH40/2005 Workplace exposure limits.
GB Mandatory Classification and Labelling List (GB MCL)
UK REACH and UK CLP Regulations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories**EU - EINECS/ELINCS**

None of the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

NITAL 3%

Classification abbreviations and acronyms	Flam. Liq. = Flammable liquid Eye Irrit. = Eye irritation STOT SE = Specific target organ toxicity-single exposure
General information	This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons.
Key literature references and sources for data	GB Mandatory Classification and Labelling List (GB MCL) Source: European Chemicals Agency, http://echa.europa.eu/
Classification procedures according to Regulation (EC) 1272/2008	STOT SE 2 - H371: Eye Irrit. 2 - H319: : Calculation method. Flam. Liq. 2 - H225: : Expert judgement.
Training advice	Only trained personnel should use this material.
Revision comments	Full revision
Revision date	10/08/2023
Revision	6
Supersedes date	02/05/2017
SDS number	11216
Risk phrases in full	R11 Highly flammable. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R35 Causes severe burns. R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. R8 Contact with combustible material may cause fire.
Hazard statements in full	H225 Highly flammable liquid and vapour. H272 May intensify fire; oxidiser. H290 May be corrosive to metals. H301 Toxic if swallowed. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H331 Toxic if inhaled. H370 Causes damage to organs (Central nervous system, Eyes). H371 May cause damage to organs .

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.