

4. First-aid measures**First-aid measures**

- Eye contact** : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Obtain medical attention if symptoms occur.
- Skin contact** : Wash with soap and water. Obtain medical attention if symptoms occur.
- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

5. Fire-fighting measures**Extinguishing media**

- Suitable** : Use dry chemical, carbon dioxide, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Flammable liquid and vapour. Vapour may cause flash fire. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- Hazardous thermal decomposition products** : These products are carbon oxides, nitrogen oxides.
- 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.

6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilt material
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dyke spilt material or otherwise contain material to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.

7. Handling and storage

- Handling** : Avoid contact with skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapour or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Packaging materials**
- Recommended** : Use original container.

8. Exposure controls/personal protection

Ingredient name	Occupational exposure limits
Ethanol	EH40-WEL (United Kingdom (UK), 1/2005). TWA: 1920 mg/m ³ 8 hour(s). Form: All forms. TWA: 1000 ppm 8 hour(s). Form: All forms.
Toluene	EH40-OES (United Kingdom (UK), 5/2003). Skin STEL: 574 mg/m ³ 15 minute(s). Form: All forms. STEL: 150 ppm 15 minute(s). Form: All forms. TWA: 191 mg/m ³ 8 hour(s). Form: All forms. TWA: 50 ppm 8 hour(s). Form: All forms.
2-Nitropropane	EH40-WEL (United Kingdom (UK), 1/2005). TWA: 19 mg/m ³ 8 hour(s). Form: All forms. TWA: 5 ppm 8 hour(s). Form: All forms.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

Occupational exposure controls : Use only with adequate ventilation. If user operations generate dust, fumes, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Eye protection : Safety glasses.

Skin protection : Lab coat.

Respiratory protection : Vapour respirator.

Hand protection : Natural rubber (latex).



Hygiene measures : Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. During formulation, follow good industrial hygiene practice.

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.

9. Physical and chemical properties

General information

Appearance

- Physical state** : Liquid. (Clear.)
- Colour** : Yellowish. (Light.)
- Odour** : Alcohol-like. (Slight.)
- Odour threshold** : Weighted average: 9.06 ppm

Important health, safety and environmental information

- pH** : Neutral.
- Boiling point** : 77°C (170°F)

- Melting point** : Weighted average: -85.25°C (-121.4°F)
- Flash point** : Open cup: 21°C (70°F)(Cleveland.).
- Explosion limits** : The greatest known range is Lower: 3.3% Upper: 19% (Ethanol)
- Vapour pressure** : 0.01 kPa (0.1 mm Hg) (at 20°C)
- Relative density** : Weighted average: 0.86 (Water = 1)
- Solubility** : Easily soluble in methanol, acetone.
Insoluble in cold water, hot water.
- Vapour density** : Weighted average: 1.86 (Air = 1)
- Evaporation rate** : Weighted average: 1.44 compared with Butyl acetate.
- Other information**
- Auto-ignition temperature** : The lowest known value is 398.85°C (749.9°F) (Ethanol).

10. Stability and reactivity

- Stability** : The product is stable.
- Materials to avoid** : Reactive with oxidizing materials, acids and alkalis.

11. Toxicological information

Potential acute health effects

- Inhalation** : Harmful by inhalation.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : Irritating to skin.
- Eye contact** : No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Test	Result	Route	Species
Ethanol	LD50	7060 mg/kg	Oral	Rat
	LD50	6300 mg/kg	Oral	Rabbit
	LD50	3450 mg/kg	Oral	Mouse
Toluene	LD50	636 mg/kg	Oral	Rat
	LD50	1221 mg/kg	Dermal	Rabbit
2-Nitropropane	LD50	720 mg/kg	Oral	Rat

Potential chronic health effects

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental toxicity	Impairs fertility
Toluene	-	-	Repr. Cat. 3; R63	-
2-Nitropropane	Carc. Cat. 2; R45	-	-	-

- Carcinogenicity** : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : Contains material which may cause birth defects based, on animal data.

Over-exposure signs/symptoms

- Inhalation** : Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- Ingestion** : No known significant effects or critical hazards.
- Skin** : No known significant effects or critical hazards.
- Target organs** : Contains material which causes damage to the following organs: blood, kidneys, the reproductive system, liver, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12. Ecological information

Ecotoxicity data

Product/ingredient name	Species	Period	Result
Ethanol	Daphnia magna (EC50)	48 hour(s)	2 mg/l
	Daphnia magna (EC50)	48 hour(s)	9.3 mg/l
	Daphnia magna (EC50)	48 hour(s)	>100 mg/l
	Pimephales promelas (LC50)	96 hour(s)	>100 mg/l
	Daphnia magna (LC50)	96 hour(s)	>100 mg/l
Toluene	Oncorhynchus mykiss (LC50)	96 hour(s)	13000 mg/l
	Daphnia magna (EC50)	48 hour(s)	6 mg/l
	Daphnia magna (EC50)	48 hour(s)	6.56 mg/l
	Oncorhynchus mykiss (EC50)	48 hour(s)	6.78 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	5.8 mg/l
	Oncorhynchus mykiss (LC50)	96 hour(s)	6.78 mg/l
	Pimephales promelas (LC50)	96 hour(s)	12.6 mg/l
2-Nitropropane	Pimephales promelas (LC50)	96 hour(s)	<210 mg/l

Other ecological information

Persistence/degradability

Mobility : Not available.




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

13. Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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.

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

14. Transport information

Regulatory information	Proper shipping name	Class	UN number	PG	Label
UN / IMDG / IATA Class	FLAMMABLE LIQUIDS, N.O.S. (Ethanol, Toluene)	3	UN1993	II	
ADNR Class	FLAMMABLE LIQUIDS, N.O.S. (Ethanol, Toluene)	3	UN1993	II	
ADR/RID Class	FLAMMABLE LIQUIDS, N.O.S. (Ethanol, Toluene)	3	UN1993	II	

15. Regulatory information

EU regulations

Hazard symbol/symbols : 

Toxic

Risk phrases : R10- Flammable.
R45- May cause cancer.
R63- Possible risk of harm to the unborn child.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R38- Irritating to skin.
R67- Vapours may cause drowsiness and dizziness.

Safety phrases : S53- Avoid exposure - obtain special instructions before use.
S36/37- Wear suitable protective clothing and gloves.

Contains : Toluene 203-625-9
2-Nitropropane 201-209-1

Product use : Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use.
- Industrial applications.

Other EU regulations

Restrictions on the Marketing and Use Directive : Restricted to professional users.

EU statistical classification (Tariff Code) : 32089091

16. Other information

Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK) : R11- Highly flammable.
R10- Flammable.
R45- May cause cancer.
R63- Possible risk of harm to the unborn child.
R20/22- Harmful by inhalation and if swallowed.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65- Harmful: may cause lung damage if swallowed.
R38- Irritating to skin.
R67- Vapours may cause drowsiness and dizziness.

Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK) : F - Highly flammable
Carc. Cat.2 - Carcinogen Category 2
Repr. Cat.3 - Toxic to reproduction Category 3
Xn - Harmful
Xi - Irritant

History

Date of issue : 03/10/2006

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.