SAFETY DATA SHEET
Neutral Red

According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 No. 758, as amended.

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

1.1. Product identifier

Product name Neutral Red

Product number PL.7009, PL.7009/25, PL.7009/100, PL.7010, PL.7011

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

Identified uses Laboratory reagent.

Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier

Pro-Lab Diagnostics
3 Bassendale Road
Wirral
Merseyside
CH62 3QL
Tel: 0151 353 1613
Fax: 0151 353 1614
mowen@pro-lab.com

1.4. Emergency telephone number

Emergency telephone +44 (0)151 353 1613 Monday to Friday 9.00 to 17.00
+44 (0)7714 429 646 outside the above hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Flam. Liq. 3 - H226

Health hazards Eye Irrit. 2 - H319

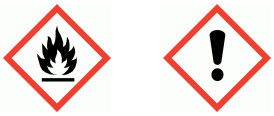
Environmental hazards Not Classified

Human health May irritate eyes.

Physicochemical The product is flammable.

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.

Neutral Red

Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/ attention. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container in accordance with national regulations.
Supplementary precautionary statements	P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P264 Wash contaminated skin thoroughly after handling. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

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 **10 - <25%**

CAS number: 64-17-5 EC number: 200-578-6

Substance with National workplace exposure limits.

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319

glycerol **1 - <2.5%**

CAS number: 56-81-5 EC number: 200-289-5

Substance with National workplace exposure limits.

Classification
Not Classified

methanol **0.5 - <1%**

CAS number: 67-56-1 EC number: 200-659-6

Classification
Flam. Liq. 2 - H225
Acute Tox. 3 - H301
Acute Tox. 3 - H311
Acute Tox. 3 - H331
STOT SE 1 - H370

The full text for all hazard statements is displayed in Section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information Keep affected person away from heat, sparks and flames.

Inhalation Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if symptoms are severe or persist.

Ingestion Rinse mouth thoroughly with water. Do not induce vomiting unless under the direction of medical personnel. If in doubt, get medical attention promptly.

Skin contact Rinse cautiously with water for several minutes. Remove contaminated clothing. Wash contaminated clothing before reuse.

Eye contact Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water. Get medical attention if symptoms are severe or persist after washing.

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

Inhalation If large concentrations are inhaled: Dizziness. Drowsiness.

Ingestion May cause discomfort if swallowed.

Skin contact May cause skin irritation. Prolonged contact may cause redness, irritation and dry skin.

Eye contact May cause temporary eye irritation.

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

Notes for the doctor The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

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 Flammable liquid and vapour. Vapours may be ignited by a spark, a hot surface or an ember.

5.3. Advice for firefighters

Protective actions during firefighting Fight fire from safe distance or protected location. Use water spray to reduce vapours. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak.

Special protective equipment for firefighters Use air-supplied respirator, gloves and protective goggles. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up Take care as floors and other surfaces may become slippery. Contain spillage with sand, earth or other suitable non-combustible material. Absorb in vermiculite, dry sand or earth and place into containers. 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. For waste disposal, see Section 13. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid breathing vapours. Avoid contact with eyes and prolonged skin contact. Avoid the formation of mists. Ground/bond container and receiving equipment.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Take off contaminated clothing and wash it before reuse. Wash promptly with soap and water if skin becomes contaminated.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep at temperature not exceeding 25°C.

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

glycerol

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ mist

methanol

Long-term exposure limit (8-hour TWA): WEL 200 ppm 266 mg/m³
Short-term exposure limit (15-minute): WEL 250 ppm 333 mg/m³
Sk

WEL = Workplace Exposure Limit.
Sk = Can be absorbed through the skin.

methanol (CAS: 67-56-1)

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DNEL	Workers - Inhalation; Long term systemic effects: 260 mg/m³ Workers - Inhalation; Short term systemic effects: 260 mg/m³ Workers - Inhalation; Long term local effects: 260 mg/m³ Workers - Inhalation; Short term local effects: 260 mg/m³ Workers - Dermal; Long term systemic effects: 40 mg/kg/day Workers - Dermal; Short term systemic effects: 40 mg/kg/day General population - Inhalation; Long term systemic effects: 50 mg/m³ General population - Inhalation; Short term systemic effects: 50 mg/m³ General population - Inhalation; Long term local effects: 50 mg/m³ General population - Inhalation; Short term local effects: 50 mg/m³ General population - Dermal; Long term systemic effects: 8 mg/kg/day General population - Dermal; Short term systemic effects: 8 mg/kg/day General population - Oral; Long term systemic effects: 8 mg/kg/day General population - Oral; Short term systemic effects: 8 mg/kg/day
PNEC	- Fresh water; 20.8 mg/l - Fresh water, Intermittent release; 1540 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

8.2. Exposure controls

Appropriate engineering controls	Avoid inhalation of vapours and spray/mists. Good general ventilation should be adequate to control worker exposure to airborne contaminants. In case of insufficient ventilation, wear suitable respiratory equipment.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. 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. Frequent changes are recommended. The breakthrough time for any glove material may be different for different glove manufacturers.
Other skin and body protection	Wear anti-static protective clothing if there is a risk of ignition from static electricity.
Hygiene measures	Do not eat, drink or smoke when using this product. Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Red.
Odour	Alcoholic.
pH	Not relevant.
Melting point	Not relevant.
Initial boiling point and range	78 - 100°C @ 1013 hPa
Flash point	~ 47°C

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Evaporation rate	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not determined.
Vapour density	Not relevant.
Relative density	Not determined.
Solubility(ies)	Soluble in water.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	None.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Acids. Alkalis. Oxidising agents.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Acids. Alkalis. Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2). Carbon monoxide (CO). Nitrous gases (NOx). Hydrocarbons. Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50})	Based on available data the classification criteria are not met.
ATE oral (mg/kg)	44,118.53

Acute toxicity - dermal

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Notes (dermal LD_{50})	Based on available data the classification criteria are not met.
ATE dermal (mg/kg)	44,118.53

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.
ATE inhalation (gases ppm)	102,943.24
ATE inhalation (vapours mg/l)	441.19

Skin corrosion/irritation

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

Serious eye damage/irritation

Serious eye damage/irritation	Causes eye irritation.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.

Carcinogenicity

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

Reproductive toxicity

Reproductive toxicity - fertility	Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard	Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation	No adverse effects known. May cause respiratory system irritation.
Ingestion	No adverse effects known. May cause discomfort if swallowed.
Skin contact	No adverse effects known. Prolonged skin contact may cause temporary irritation.
Eye contact	May cause temporary eye irritation.

Toxicological information on ingredients.

ethanol

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	10,470.0
Species	Rat

Neutral Red

Notes (oral LD_{50})	REACH dossier information. Based on available data the classification criteria are not met.
ATE oral (mg/kg)	10,470.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	124.7
Species	Rat
Notes (inhalation LC_{50})	REACH dossier information. Based on available data the classification criteria are not met.
ATE inhalation (vapours mg/l)	124.7

Skin corrosion/irritation

Animal data	Dose: 0.2 ml, 24 hours, Rabbit Primary dermal irritation index: 0 / 8 REACH dossier information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Dose: 0.1 mL, 21 days, Rabbit Causes eye irritation. REACH dossier information.

Respiratory sensitisation

Respiratory sensitisation	Rat: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Read across data. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

IARC carcinogenicity	IARC Group 1 Carcinogenic to humans.

Reproductive toxicity

Reproductive toxicity - fertility	Two-generation study - NOAEL 15 %, Oral, Mouse P REACH dossier information.
Reproductive toxicity - development	Maternal toxicity: - NOAEL: 16000 ppm, Inhalation, Rat REACH dossier information.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	LOAEL 4 mL/Kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

methanol

Acute toxicity - oral

Neutral Red

Notes (oral LD_{50})	International Programme on Chemical Safety (IPCS) (1997) Environmental Health Criteria 196: Methanol. Geneva, World Health Organization. Toxic if swallowed.
ATE oral (mg/kg)	100.0

Acute toxicity - dermal

Notes (dermal LD_{50})	Converted acute toxicity point estimate (cATpE) Toxic in contact with skin.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Converted acute toxicity point estimate (cATpE) Toxic if inhaled.
ATE inhalation (gases ppm)	700.0
ATE inhalation (vapours mg/l)	3.0

Skin corrosion/irritation

Animal data	Dose: 2.5cm x 2.5cm, 20 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation	Dose: 0.05 ml, 24 hours, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Bacterial reverse mutation test: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure	STOT SE 1 - H370
Target organs	Eyes Central nervous system

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	LOAEL 2340 mg/kg/day, Oral, Monkey REACH dossier information. Based on available data the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity	Based on available data the classification criteria are not met. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

ethanol

Acute aquatic toxicity

Neutral Red

Acute toxicity - fish	LC_{50}, 96 hours: 14200 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.
Acute toxicity - aquatic invertebrates	LC_{50}, 48 hours: 5012 mg/l, Ceriodaphnia dubia REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 72 hours: 275 mg/l, Chlorella vulgaris REACH dossier information.

Chronic aquatic toxicity

Chronic toxicity - fish early life stage	NOEC, 120 hours: 250 mg/l, Brachydanio rerio (Zebra Fish)
Chronic toxicity - aquatic invertebrates	NOEC, 9 days: 9.6 mg/l, Daphnia magna REACH dossier information.

methanol

Acute aquatic toxicity

Acute toxicity - fish	LC_{50}, 96 hours: 15400 mg/l, Lepomis macrochirus (Bluegill) EC_{50}, 96 hours: 12700 mg/l, Lepomis macrochirus (Bluegill) REACH dossier information.
Acute toxicity - aquatic invertebrates	EC_{50}, 96 hours: 18260 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	EC_{50}, 96 hours: ~ 22000 mg/l, Pseudokirchneriella subcapitata REACH dossier information.
Acute toxicity - microorganisms	IC_{50}, 3 hours: >1000 mg/l, Activated sludge REACH dossier information.

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product. Volatile substances are degraded in the atmosphere within a few days.

Ecological information on ingredients.

ethanol

Biodegradation	Water - Degradation (74%): 10 days REACH dossier information. The substance is readily biodegradable.
Chemical oxygen demand	1.99 g O_2/g substance REACH dossier information.

methanol

Phototransformation	Water - DT_{50} : 17.2 days REACH dossier information.
Biodegradation	Water - Degradation (95%): 20 days Water - Degradation (91%): 15 days Water - Degradation (88%): 10 days Water - Degradation (76%): 5 days REACH dossier information. The substance is readily biodegradable.

12.3. Bioaccumulative potential

Neutral Red

Bioaccumulative potential Not determined.

Partition coefficient Not determined.

Ecological information on ingredients.

ethanol

Partition coefficient log Pow: - 0.35 REACH dossier information.

methanol

Partition coefficient log Pow: -0.77 REACH dossier information.

12.4. Mobility in soil

Mobility The product contains organic solvents which will evaporate easily from all surfaces. The product contains substances which are water-soluble and may spread in water systems.

Ecological information on ingredients.

ethanol

Surface tension 24.5 mN/m @ 20°C/68°F REACH dossier information.

methanol

Mobility Mobile.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

ethanol

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

methanol

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

12.6. Other adverse effects

Other adverse effects Not relevant.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Reuse or recycle products wherever possible. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

Disposal methods Absorb in vermiculite, dry sand or earth and place into containers. Place waste in labelled, sealed containers. Dispose of contents/container in accordance with national regulations.

SECTION 14: Transport information

14.1. UN number

Neutral Red

UN No. (ADR/RID)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993
UN No. (ADN)	1993

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	FLAMMABLE LIQUID, N.O.S. (ethanol)
Proper shipping name (IMDG)	FLAMMABLE LIQUID, N.O.S. (ethanol)
Proper shipping name (ICAO)	FLAMMABLE LIQUID, N.O.S. (ethanol)
Proper shipping name (ADN)	FLAMMABLE LIQUID, N.O.S. (ethanol)

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	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-E
ADR transport category	3
Emergency Action Code	•3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

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

Neutral Red

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

SECTION 15: Regulatory information

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

National regulations	EH40/2005 Workplace exposure limits. The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 No. 758, as amended. The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019 No. 720, as amended.
EU legislation	Council Directive of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers (75/324/EEC).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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. ATE: Acute Toxicity Estimate. BCF: Bioconcentration Factor. DNEL: Derived No Effect Level. EC_{50}: 50% of maximal Effective Concentration. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. LC50: Lethal Concentration to 50 % of a test population. LD50: Lethal Dose to 50% of a test population (Median Lethal Dose). NOAEL: No Observed Adverse Effect Level. NOEC: No Observed Effect Concentration. PNEC: Predicted No Effect Concentration. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Eye Irrit. = Eye irritation STOT SE = Specific target organ toxicity-single exposure
Classification procedures according to SI 2019 No. 720	Flam. Liq. 3 - H226: Expert judgement. Eye Irrit. 2 - H319: Calculation method.
Revision comments	Revised regulations.
Revision date	26/09/2022
Revision	9
Supersedes date	01/10/2017
SDS number	815

Neutral Red

Hazard statements in full

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H370 Causes damage to organs .