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SECTION 6: Accidental release measures (....)

- Large spills
 - Evacuate the area and keep personnel upwind
 - Absorb spillage in inert material and shovel up
 - Place in appropriate container
 - Seal containers and label them
 - Remove contaminated material to safe location for subsequent disposal
 - Ventilate the area and wash spill site after material pick-up is complete

6.4 Reference to other sections

- See section(s): 7, 8 & 13
-

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Keep away from heat and sources of ignition
- Use only outdoors or in a well-ventilated area.
- Avoid breathing vapours or spray
- Avoid contact with skin and eyes
- Wear protective clothing as per section 8
- Contaminated work clothing should not be allowed out of the workplace.
- Contaminated clothing should be laundered before reuse
- Do not eat, drink or smoke when using this product.
- Eyewash bottles should be available

7.2 Conditions for safe storage, including any incompatibilities

- Store in a cool, dry well-ventilated place. Keep container tightly closed.
- Avoid freezing
- Store at 5 - 25 °C
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep in a flammable materials store
- Take precautionary measures against static discharges
- Use explosion-proof electrical equipment.
- Keep out of reach of children
- Keep away from food, drink and animal feedingstuffs
- Incompatible with strong oxidizing substances
- Incompatible with strong acids

7.3 Specific end use(s)

- Automotive care
 - Fuel conditioner
-

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

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SECTION 8: Exposure controls/personal protection (....)

- Propan-2-ol; isopropyl alcohol; isopropanol
 - WEL (long term) 400 ppm 999 mg/m³ (UK)
 - WEL (short term limit value) 500 ppm 1250 mg/m³ (UK)
 - DNEL (inhalational) 500 mg/m³ Industry, Long Term, Systemic Effects
 - DNEL (dermal) 888 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 - DNEL (inhalational) 89 mg/m³ Consumer, Long Term, Systemic Effects
 - DNEL (dermal) 319 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - DNEL (oral) 26 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - PNEC aqua (freshwater) 140.9 mg/L
 - PNEC aqua (intermittent releases, freshwater) 140.9 mg/L
 - PNEC aqua (marine water) 140.9 mg/L
 - PNEC (STP) 2.251 g/L
 - PNEC sediment (freshwater) 552 mg/kg
 - PNEC sediment (marine water) 552 mg/kg
 - PNEC terrestrial (soil) 28 mg/kg
 - PNEC secondary poisoning (food) 160 mg/kg
- d-limonene
 - DNEL (inhalational) 66.7 mg/m³ Industry, Long Term, Systemic Effects
 - DNEL (dermal) 9.5 mg/kg (bw/day) Industry, Long Term, Systemic Effects
 - DNEL (inhalational) 16.6 mg/m³ Consumer, Long Term, Systemic Effects
 - DNEL (dermal) 4.8 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - DNEL (oral) 4.8 mg/kg (bw/day) Consumer, Long Term, Systemic Effects
 - PNEC aqua (freshwater) 14 ug/L
 - PNEC aqua (marine water) 1.4 ug/L
 - PNEC (STP) 1.8 mg/L
 - PNEC sediment (freshwater) 3.85 mg/kg
 - PNEC sediment (marine water) 385 ug/kg
 - PNEC terrestrial (soil) 763 ug/kg
 - PNEC secondary poisoning (food) 133 mg/kg

8.2 Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
 - Ensure adequate ventilation
 - If practicable, engineering controls should be provided where airborne concentrations exceed exposure limits
 - Use local exhaust ventilation and/or enclosures.
 - Use explosion-proof ventilating and lighting equipment.
- Respiratory protection
 - No respiratory protection is needed during normal handling
 - Respiratory protection may be required under exceptional circumstances when excessive air contamination exists
 - Where a reusable half mask respirator is required, use EN 140, with gas/vapour filter EN 14387 type ABEK, or EN 405; EN 1827
 - Where a full face mask respirator is required, use EN 136, with gas/vapour filter EN 14387 type ABEK
- Skin protection
 - Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
 - The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
 - The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
 - Butyl rubber or nitrile rubber are recommended
- Eye/face protection
 - Wear safety glasses approved to standard EN 166.

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SECTION 8: Exposure controls/personal protection (....)

- Hygiene measures
 - Contaminated clothing should be laundered before reuse
 - Do not eat, drink or smoke when using this product.
 - Eyewash bottles should be available
- Environmental exposure controls
 - Do not empty into drains
 - Do not allow to penetrate the ground/soil.



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Pale green liquid
- Odour: Citrus, with strong alcohol odour
- Odour threshold: No information available
- pH: 7
- Melting point/freezing point: -15 °C to -7 °C (predicted from literature)
- Initial boiling point and boiling range: 82 - 83 °C (isopropanol)
- Flashpoint: 32 °C c.c.
- Evaporation Rate: No information available
- Flammability (solid,gas): No information available
- Upper/lower flammability or explosive limits: Lower explosive limit (isopropanol) 2 % (in air), Upper explosive limit (isopropanol) 12 % (in air)
- Vapour Pressure: 42 - 60.2 hPa @ 20 - 25 °C (isopropanol)
- Vapour Density: No information available
- Relative Density: 0.9461 @ 20 °C
- Solubility(ies): Soluble in water
- Partition Coefficient (n-Octanol/Water): Log Kow: 0.05 @ 25 °C (isopropanol)
- Autoignition Temperature: ca. 399 °C (isopropanol)
- Decomposition temperature: No information available
- Viscosity: No information available
- Explosive Properties: May form explosive vapour/air mixtures
- Oxidising Properties: No information available

9.2 Other information

- No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

- No hazardous reactions known if used for its intended purpose

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- May form explosive vapour/air mixtures
- Exothermic reaction with strong acids

10.4 Conditions to avoid

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SECTION 10: Stability and reactivity (....)

- Keep away from heat and sources of ignition

10.5 Incompatible materials

- Incompatible with strong oxidizing substances
- Incompatible with strong acids

10.6 Hazardous decomposition products

- Decomposition products may include carbon oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	LOAEL (oral, rat)	LC50 (inhalation, rat)	LD50 (dermal, rabbit)
Propan-2-ol; isopropyl alcohol; isopropanol	5 840 mg/kg	10 000 ppm (6hr)	16.4 mL/kg
d-limonene; (R)-p-mentha-1,8-diene	2 000 mg/kg	No data available	5 000 mg/kg

- Skin corrosion/irritation

Based on available data, the classification criteria are not met

- Serious eye damage/irritation

Causes serious eye irritation.

Classification based on calculation and concentration thresholds

- Respiratory or skin sensitisation

Contains d-limonene. May produce an allergic reaction.

- Germ cell mutagenicity

No evidence of mutagenic effects

- Carcinogenicity

No evidence of carcinogenic effects

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Propan-2-ol; isopropyl alcohol; isopropanol	No data available	No data available	No data available
d-limonene; (R)-p-mentha-1,8-diene	No data available	No data available	75 mg/kg bw/day

- Reproductive toxicity

Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Propan-2-ol; isopropyl alcohol; isopropanol	No data available	No data available	No data available
d-limonene; (R)-p-mentha-1,8-diene	591 mg/kg bw/day (effect on developmental toxicity)	No data available	No data available

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SECTION 11: Toxicological information (....)

- Specific target organ toxicity (STOT) - single exposure
STOT SE 3
May cause drowsiness or dizziness.
Classification based on calculation and concentration thresholds
- Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Propan-2-ol; isopropyl alcohol; isopropanol	No data available	5 000 ppm	No data available
d-limonene; (R)-p-mentha-1,8-diene	600 - 1 650 mg/kg bw/day	No data available	No data available

- Aspiration hazard
Based on available data, the classification criteria are not met
- Contact with eyes
Causes redness and irritation
Lachrymatory effects (makes eyes water)
- Contact with skin
May cause allergic reaction in susceptible people
Prolonged skin contact will result in defatting of the skin, leading to irritation, and in some cases, dermatitis
- Ingestion
May cause nausea/vomiting
The ingestion of significant quantities may cause damage to liver
- Inhalation
Has central nervous system effects
Narcotic effect in high concentrations (headache, dizziness, nausea)

SECTION 12: Ecological information

12.1 Toxicity

- Based on available data, the classification criteria are not met

Substances

Chemical Name	LC50 (fish)	EC50 (aquatic invertebrates)	EC50 (aquatic algae)
Propan-2-ol; isopropyl alcohol; isopropanol	9.64 - 10 g/L (4 days)	10 g/L (24 hr)	9.17 g/L
d-limonene; (R)-p-mentha-1,8-diene	460 - 720 ug/L (4 days)	307 - 510 ug/L (48 hr)	214 - 320 ug/L (72 hr)

12.2 Persistence and degradability

- Propan-2-ol; isopropyl alcohol; isopropanol
Readily biodegradable

12.3 Bioaccumulative potential

- Propan-2-ol; isopropyl alcohol; isopropanol
Bioaccumulation is not expected

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SECTION 12: Ecological information (....)

12.4 Mobility in soil

- Propan-2-ol; isopropyl alcohol; isopropanol
Mobile in soils

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- Dispose of product and packaging in accordance with national waste regulations
- This material and/or its container must be disposed of as hazardous waste
- Do not pierce or burn container, even after use
- Empty containers may contain flammable vapours

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)
- Hazardous Property Code(s): HP 3 Flammable; HP 4 Irritant; HP 5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

SECTION 14: Transport information

14.1 UN number

- UN No.: 1987

14.2 UN proper shipping name

- Proper Shipping Name: ALCOHOLS, N.O.S. (ISOPROPANOL)

14.3 Transport hazard class(es)

- Hazard Class: 3

14.4 Packing group

- Packing Group: III

14.5 Environmental hazards

- Not Classified

14.6 Special precautions for user

- Keep away from heat and direct sunlight.

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

- Not applicable

14.8 Road/Rail (ADR/RID)

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SECTION 14: Transport information (....)

- Proper Shipping Name: ALCOHOLS, N.O.S. (ISOPROPANOL)
- ADR UN No.: 1987
- ADR Hazard Class: 3
- ADR Packing Group: III
- Tunnel Code: D/E
- LQ: 5L

14.9 Sea (IMDG)

- Proper Shipping Name: ALCOHOLS, N.O.S. (ISOPROPANOL)
- IMDG UN No.: 1987
- IMDG Hazard Class: 3
- IMDG Pack Group.: III
- LQ: 5L

14.10 Air (ICAO/IATA)

- Proper Shipping Name: ALCOHOLS, N.O.S. (ISOPROPANOL)
- ICAO UN No.: 1987
- ICAO Hazard Class: 3
- ICAO Packing Group: III

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe
- This product is covered by EU Directive 2012/18/EU (the Seveso III Directive)
- HS Code, Customs Tariff Number, TARIC Code: 38 11 90 00 90

15.2 Chemical safety assessment

- A REACH chemical safety assessment has not been carried out

SECTION 16: Other information

All statements information and data provided in this Safety Data Sheet are believed to be accurate and reliable and are presented without guarantee warranty or responsibility of any kind expressed or implied on our part; users should make their own investigations to determine the suitability of the information or products for their particular purpose; nothing contained herein is intended as permission inducement or recommendation to violate any laws or to practice any invention covered by existing patents.

Sources of data: Information from testing, published literature and supplier safety data sheets

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

- Flam. Liq. 3, H226: Classification based on test data
- Eye Irrit. 2, H319: Classification based on calculation and concentration thresholds
- STOT SE 3, H336: Classification based on calculation and concentration thresholds

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SECTION 16: Other information (....)

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

- H225: Highly flammable liquid and vapour.
- H226: Flammable liquid and vapour
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness
- H400: Very toxic to aquatic life
- H410: Very toxic to aquatic life with long lasting effects

Acronyms

- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC50: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC50: Lethal Concentration, 50%
- LD50: Lethal Dose, 50%
- NOAEC: No observed adverse effect concentration
- NOAEL: No observed adverse effect level
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- SCL: Specific Concentration Limit
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---
