

SAFETY DATA SHEET

BAC Resolution Control Standard - tB, Part Number G3440-85044

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

1.1 Product identifier

Product name : BAC Resolution Control Standard - tB, Part Number G3440-85044
Part No. : G3440-85044

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

Identified uses
Analytical chemistry. Part No. (Supplier): 36011 ampoule 1 x 1 mL

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

H225	FLAMMABLE LIQUIDS - Category 2
H302	ACUTE TOXICITY (oral) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
H351	CARCINOGENICITY - Category 2
H370	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F; R11
Carc. Cat. 3; R40
T; R39/23/24/25
Xn; R20/21/22
Xi; R36/37

Physical/chemical hazards : Highly flammable.

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SECTION 2: Hazards identification

Human health hazards : Limited evidence of a carcinogenic effect. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and respiratory system.

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

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

2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapour.
 H302 + H332 - Harmful if swallowed or if inhaled.
 H319 - Causes serious eye irritation.
 H351 - Suspected of causing cancer.
 H370 - Causes damage to organs.
 H335 - May cause respiratory irritation.
 H336 - May cause drowsiness or dizziness.

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
 P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
 P260 - Do not breathe vapour.

Response : P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : P235 - Keep cool.

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

Hazardous ingredients : Acetone
 Methanol
 Propan-2-ol
 2-Methylpropan-2-ol
 Acetaldehyde

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Defatting to the skin.

SECTION 3: Composition/information on ingredients**3.2 Mixtures**

: Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Acetaldehyde	EC: 200-836-8 CAS: 75-07-0 Index: 605-003-00-6	≥10 - <25	F+; R12 Carc. Cat. 3; R40 Xi; R36/37	Flam. Liq. 1, H224 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335	[1]
2-Methylpropan-2-ol	EC: 200-889-7 CAS: 75-65-0 Index: 603-005-00-1	≥10 - <25	F; R11 Xn; R20 Xi; R36/37	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Propan-2-ol	EC: 200-661-7 CAS: 67-63-0 Index: 603-117-00-0	≥10 - <25	F; R11 Xi; R36 R67	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1]
Methanol	EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X	≥10 - <15	F; R11 T; R23/24/25, R39/23/24/25	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370	[1] [2]
Acetone	EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≥10 - <25	F; R11 Xi; R36 R66, R67 See Section 16 for the full text of the R- phrases declared above.	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

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

SECTION 4: First aid measures**4.1 Description of first aid measures****Eye contact**

: Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes.

Inhalation

: Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

: Get medical attention immediately. Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. 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.

4.2 Most important symptoms and effects, both acute and delayed**Potential acute health effects**

- Eye contact** : Irritating to eyes.
- Inhalation** : Harmful by inhalation. Danger of very serious irreversible effects. Can cause central nervous system (CNS) depression. Irritating to respiratory system.
- Skin contact** : Harmful in contact with skin. Danger of very serious irreversible effects. May cause skin dryness and irritation.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
respiratory tract irritation
coughing
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Highly flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

SECTION 5: Firefighting measures

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

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso II Directive - Reporting thresholds (in tonnes)

Named substances

Name	Notification and MAPP threshold	Safety report threshold
Methanol	500	5000

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
H3: STOT Single exposure 1	50	200
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000
C2: Toxic	50	200
C7b: Highly flammable (R11)	5000	50000

7.3 Specific end use(s)

Recommendations : Industrial applications, Professional applications.

Industrial sector specific solutions : Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Methanol	EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 200 ppm 8 hours. TWA: 260 mg/m ³ 8 hours.
Acetone	EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values TWA: 500 ppm 8 hours. TWA: 1210 mg/m ³ 8 hours.

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 monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs available.

PNECs

No PNECs available.

SECTION 8: Exposure controls/personal protection**8.2 Exposure controls**

Appropriate engineering controls : Use only with adequate ventilation. 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.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	: Liquid.
Colour	: Colourless.
Odour	: Pungent. [Strong]
Odour threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: -17°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not applicable.

SECTION 9: Physical and chemical properties

Upper/lower flammability or explosive limits	: Lower: 4% Upper: 57%
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: Not available.
Solubility(ies)	: Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: -0.3
Auto-ignition temperature	: 130°C
Decomposition temperature	: Not available.
Viscosity	: Not available.
Explosive properties	: Slightly explosive in the presence of the following materials or conditions: alkalis.
Oxidising properties	: Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Acetaldehyde	LC50 Inhalation Vapour	Rat	13300 ppm	4 hours
	LD50 Dermal	Rabbit	3540 mg/kg	-
	LD50 Oral	Rat	661 mg/kg	-
2-Methylpropan-2-ol	LC50 Inhalation Vapour	Rat	14100 ppm	4 hours
	LD50 Oral	Rat	2733 mg/kg	-
	LD50 Dermal	Rabbit	12800 mg/kg	-
Propan-2-ol	LD50 Oral	Rat	5000 mg/kg	-
	LD50 Dermal	Rat	145000 ppm	1 hours
Methanol	LC50 Inhalation Vapour	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Acetone	LD50 Oral	Rat	5800 mg/kg	-

Acute toxicity estimates

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Route	ATE value
Oral	1000 mg/kg
Dermal	3000 mg/kg
Inhalation (vapours)	110 mg/l
Inhalation (dusts and mists)	5 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Acetaldehyde	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
2-Methylpropan-2-ol	Eyes - Severe irritant	Rabbit	-	24 hours 100 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
Methanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
Acetone	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Acetaldehyde	Category 3	Not applicable.	Respiratory tract irritation
2-Methylpropan-2-ol	Category 3	Not applicable.	Respiratory tract irritation
Propan-2-ol	Category 3	Not applicable.	Narcotic effects
Methanol	Category 1	Not determined	Not determined
Acetone	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : Harmful by inhalation. Danger of very serious irreversible effects. Can cause central nervous system (CNS) depression. Irritating to respiratory system.

SECTION 11: Toxicological information

- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.
- Skin contact** : Harmful in contact with skin. Danger of very serious irreversible effects. May cause skin dryness and irritation.
- Eye contact** : Irritating to eyes.

Symptoms related to the physical, chemical and toxicological characteristics

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
respiratory tract irritation
coughing
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Ingestion** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Eye contact** : Adverse symptoms may include the following:
irritation
watering
redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Other information** : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Acetaldehyde	Acute EC50 236600 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 48250 to 59100 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 >100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
2-Methylpropan-2-ol	Acute LC50 36800 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 5504000 to 6577000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 6410000 to 6700000 µg/l	Fish - Pimephales promelas	96 hours

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Propan-2-ol	Fresh water Acute LC50 1400000 to 1950000 µg/l	Crustaceans - Crangon crangon	48 hours
Methanol	Marine water Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
	Acute EC50 24500000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
Acetone	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 290 mg/l Fresh water	Fish - Danio rerio - Egg	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5600 ppm Fresh water	Fish - Poecilia reticulata	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 5 µg/l Marine water	Fish - Gasterosteus aculeatus - Larvae	42 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Acetone	OECD 301B Ready Biodegradability - CO2 Evolution Test	95 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methanol	-	-	Readily
Acetone	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
BAC Resolution Control Standard - tB, Part Number G3440-85044	-0.3	-	low
Acetaldehyde	0.45	-	low
2-Methylpropan-2-ol	0.35	5.01	low
Propan-2-ol	0.05	-	low
Methanol	-0.77	<10	low
Acetone	-0.23	3	low

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

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

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

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

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information**Regulatory information**

ADR/RID / IMDG / IATA : Not regulated.

Additional information : **Remarks**
De minimis quantities

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulation (EC) No. 1907/2006 (REACH)****Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Integrated pollution prevention and control list (IPPC) - Air : Listed

SECTION 15: Regulatory information

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
acetaldehyde	Carc. 2, H351	-	-	-

Seveso II Directive

This product is controlled under the Seveso II Directive.

Named substances**Name**

Methanol

Danger criteria**Category**

H3: STOT Single exposure 1
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
C2: Toxic
C7b: Highly flammable (R11)

International regulations**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists**National inventory**

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Japan	: All components are listed or exempted.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: Not determined.
United States	: All components are listed or exempted.

15.2 Chemical Safety Assessment

: This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

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

Classification	Justification
Flam. Liq. 2, H225	On basis of test data
Acute Tox. 4, H302	Calculation method
Acute Tox. 4, H332	Calculation method
Eye Irrit. 2, H319	Calculation method
Carc. 2, H351	Calculation method
STOT SE 1, H370	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method

Full text of abbreviated H statements : H224 Extremely flammable liquid and vapour.
 H225 Highly flammable liquid and vapour.
 H301 (oral) Toxic if swallowed.
 H302 (oral) Harmful if swallowed.
 H311 (dermal) Toxic in contact with skin.
 H319 Causes serious eye irritation.
 H331 (inhalation) Toxic if inhaled.
 H332 (inhalation) Harmful if inhaled.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H351 Suspected of causing cancer.
 H370 Causes damage to organs.

Full text of classifications [CLP/GHS] : Acute Tox. 3, H301 ACUTE TOXICITY (oral) - Category 3
 Acute Tox. 3, H311 ACUTE TOXICITY (dermal) - Category 3
 Acute Tox. 3, H331 ACUTE TOXICITY (inhalation) - Category 3
 Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
 Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4
 Carc. 2, H351 CARCINOGENICITY - Category 2
 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
 Flam. Liq. 1, H224 FLAMMABLE LIQUIDS - Category 1
 Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2
 STOT SE 1, H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1
 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
 STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Full text of abbreviated R phrases : R12- Extremely flammable.
 R11- Highly flammable.
 R40- Limited evidence of a carcinogenic effect.
 R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
 R39/23/24/25- Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
 R20- Harmful by inhalation.
 R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
 R36- Irritating to eyes.
 R36/37- Irritating to eyes and respiratory system.
 R66- Repeated exposure may cause skin dryness or cracking.
 R67- Vapours may cause drowsiness and dizziness.

SECTION 16: Other information

Full text of classifications [DSD/DPD] : F+ - Extremely flammable
F - Highly flammable
Carc. Cat. 3 - Carcinogen category 3
T - Toxic
Xn - Harmful
Xi - Irritant

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