

Material Safety Data Sheet (MSDS) –Acetone

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product identifier

Trade Name: Acetone

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

Industrial uses: Cleaning Solvent

Professional uses: Cleaning Solvent

Uses advised against: Product is not for consumer use

1.3. Details of the supplier of the safety data sheet

Res-Tec Limited

Unit 25

Castle Park Industrial Estate

Flint

Flintshire

CH6 5XA

Tel: +44 (0) 845 4504 193

Email enquiries@res-tec.co.uk

1.4. Emergency telephone number

+44 (0) 845 4504 193

2. Hazards Identification

2.1. Classification of the substance or mixture

Product definition: Mixture

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

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.

2.2. Label elements

Hazard Pictograms:



Signal word: DANGER

Hazard Statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May causes drowsiness or dizziness.

Precautionary Statements

Prevention:

Wear protective gloves: >8 hours (breakthrough time): Butyl rubber or Teflon. Replace damaged gloves.; <1 hours (breakthrough time): Nitril rubber, natural rubber (latex), neoprene, polyethylene, polyvinyl alcohol (PVA), PVC (these materials may degrade).

Wear eye or face protection.

Keep away from heat, sparks, open flames and hot surfaces. - No smoking.

Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area.

Avoid breathing vapour.

Wash hands thoroughly after handling

Response:

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or physician if you feel unwell.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF IN

EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. If eye irritation persists: Get medical attention.

Supplement Statements:

EUH 066 Repeated exposure may cause skin dryness or cracking.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents and container in accordance with local, regional, national, and International regulations

3. Composition and Information on Ingredients

Ingredient Name	Concentration	Regulations (EC) No. 1272/2008 [CLP]
Acetone REACH #: 01-21 19471330-49 EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8.	100%	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Refer to Section 16 for additional wording.

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

4. First Aid Measures

4.1. Description of first aid measures

General

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

Eye Contact

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 15 minutes. Get medical attention.

Inhalation

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. Get medical attention. If necessary, call a poison centre or physician. 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

Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention. If necessary, call a poison centre or physician. 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. 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

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Ingestion: Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Skin contact: Defatting to the skin. May cause skin dryness and irritation.

Eye contact : Causes serious eye irritation

Overexposure Signs / Symptoms

Eye Contact: Adverse symptoms may include the following:

- pain or irritation
- watering
- redness

Inhalation: Adverse symptoms may include the following:

- nausea or vomiting
- headache
- drowsiness/fatigue
- dizziness/vertigo
- unconsciousness

Skin Contact: Adverse symptoms may include the following:

- irritation
- dryness
- cracking

Ingestion: No specific data.
Sore throat, stomach pains, salivation, nausea or vomiting, headache, dizziness,

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

5. Fire Fighting Measures

5.1. Extinguishing media

Suitable extinguishing agents:

Recommended: alcohol-resistant foam, CO₂, powders, water spray.

For safety reasons unsuitable extinguishing agents:

Water with a full water jet.

5.2. Special hazards arising 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. The vapour/gas is heavier than air and will spread along the ground. 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. In case of fire, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide.

5.3. Advice for firefighters

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 firefighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

6. Accidental Release Measures

6.1. Personal precautions protective equipment and emergency procedures

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 spilt 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.

6.2. Environmental precautions

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".

6.3. Methods and material for containment and cleaning up

Small Spill: Stop leak if without risk. Move containers from spill area. 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. Use spark-proof tools and explosion-proof equipment.

Dispose of via a licensed waste disposal contractor

Large Spill: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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

7. Handling and Storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1. Precautions for safe handling

Protective Measures & Advice on General Occupational Hygiene

Put on appropriate personal protective equipment (see Section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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

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.

7.2. Conditions for safe storage, including incompatibilities

Store between the following temperatures: 15°C to 25°C (59°F to 77°F). 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 un-labelled containers. Use appropriate containment to avoid environmental contamination.

7.3. Specific end uses

Not Available.

8. Exposure Controls / Personal Protection

8.1. Control parameters

Product / Ingredient Name	Exposure Limit Values
Acetone	EH40/2005 WELs (United Kingdom (UK), 8/2007). STEL: 3620 mg/m ³ 15 minute(s). STEL: 1500 ppm 15 minute(s). TWA: 500 ppm 8 hour(s). TWA: 1210 mg/m ³ 8 hour(s).

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.

DNELs/DMELs

Product/Ingredient Name	Type	Exposure	Value	Population	Effects
Acetone	DNEL	Short Term Inhalation	2420 mg/m ³ (1000 ppm)	Workers	Systemic
	DNEL	Long Term Dermal	186 mg/kg bw/day	Workers	Systemic
	DNEL	Long Term Inhalation	1210 mg/m ³ (500ppm)	Workers	Systemic
	DNEL	Long Term Dermal	62 mg/kg bw/day	Man via environment	Systemic
	DNEL	Long Term Inhalation	200 mg/m ³ (83ppm)	Man via environment	Systemic
	DNEL	Long Term Oral	62 mg/kg bw/day	Man via environment	Systemic

PNECs

Product/Ingredient name	Compartment Detail	Value	Method detail
Acetone	Fresh Water	10.6 mg/l	-
	Marine Water	1.06 mg/l	-
	Sewerage Treatment Plant	100 mg/l	-
	Fresh Water Sediment	30.4 mg/kg	-
	Marine Water Sediment	3.04 mg/kg	-
	Soil	29.5mg/kg	-

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.

Personal protective equipment

General protective and hygienic 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.

Breathing equipment:
 Wear filter mask, filter type A.

Protection of hands & materials of gloves:
 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. >8 hours (breakthrough time): Butyl rubber or Teflon. Replace damaged gloves.
 <1 hours (breakthrough time): Nitril rubber, natural rubber (latex), neoprene, polyethylene, polyvinyl alcohol (PVA), PVC (these materials may degrade).

Eye protection:
 Safety glasses with side shields. (EN166)

Body Protection:
 Personnel should wear antistatic clothing made of natural fibres or of high temperature-resistant synthetic fibres. (EN 1149-1)

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

9.1. Information on basic physical and chemical properties

Appearance:	
Form:	Liquid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	306 – 600 ppm
pH-value:	7
Change in condition	
Melting point/Melting range:	- 95°C
Initial Boiling point/Boiling range:	56°C
Flash point:	- 18°C
Evaporation Rate:	6.06 (compared to Butyl Acetate)
Flammability (solid, gaseous)	Not available
Critical values for explosion:	
Lower:	2.2 %
Upper:	13.0 %
Vapour pressure at 20°C:	24 kPa
Vapour density:	2 (Air = 1)
Relative Density:	~8g/cm ³ (Water = 1)
Solubility in / Miscibility with Water:	Easily soluble in the following materials: cold water, methanol and diethyl ether.
Partition coefficient (n-octanol/water):	-0.24
Auto Ignition temperature:	465°C
Decomposition Temperature:	Not Available
Viscosity:	Dynamic: 0.33 mPa·s (0.33 cP)
Explosive Properties:	Not Available
Oxidising Properties:	Not Available

9.2. Other information

No further relevant information available

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

Stable under recommended storage and handling conditions (see Section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

In a fire, hazardous decomposition products may be produced.

10.5. Incompatible materials

Keep away from: oxidising agents, strong alkalis, and amines.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂ and smoke can be generated.

11. Toxicological Data

11.1. Information on toxicological effects

Acute Toxicity

Product/ingredient Name	Result	Species	Dose	Exposure
Acetone	LC50 Inhalation Vapour	Rat	76 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	50 mg/l	8 hours
	LD50 Dermal	Rat	>15800 mg/kg	-
	LD50 Oral	Rat	5800 mg/l	-

Conclusion/Summary: Not available.

Acute toxicity estimates: Not available

Irritation/Corrosion

Product/ingredient Name	Result	Species	Score	Exposure	Observation
Acetone	Eyes – Mild Irritant	Human	-	-186300 ppm	-
	Eyes – Mild Irritant	Rabbit	-	10ug	-
	Eyes – Moderate Irritant	Rabbit	-	24 hours 20 mg	-
	Eyes – Severe Irritant	Rabbit	-	20 mg	-
	Skin – Mild Irritant	Rabbit	-	24 hours 500 mg	-
	Skin – Mild Irritant	Rabbit	-	395 mg	-

Conclusion/Summary:

Skin: Irritating effects cannot be excluded.

Eyes: Irritating to eyes.

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

Sensitisation

Product/ingredient Name	Route of Exposure	Species	Result
Acetone	Skin	Guinea Pig	Non Sensitising

Conclusion/Summary:
Skin: No indications of sensitization.
Respiratory: Not available.

Mutagenicity

Product/ingredient Name	Test	Experiment	Result
Acetone	Ames test	Experiment: In vitro Subject: Bacteria	Negative

Conclusion/Summary: Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary: Based on available data, the classification criteria are not met.

Reproductive toxicity

Conclusion/Summary: Based on available data, the classification criteria are not met.

Teratogenicity

Conclusion/Summary: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/ingredient Name	Category	Route of exposure	Target Organs
Acetone	Category 3	Not determined	Narcotic effect

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration Hazard

Not available.

12. Ecological Data

12.1. Toxicity

There is no data available on the mixture itself. Do not allow to enter drains or watercourses.

Product/Ingredient Name	Result	Species	Exposure
Acetone	NOEC 2212 mg/l	Daphnia	28 days
	Acute EC50 5600000 to 10000000 ug/L Fresh water	Algae - Selenastrum sp.	72 hours
	Acute EC50 7200000 ug/L Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 6000000 ug/L Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 6900 mg/L Fresh Water	Daphnia - Daphnia magna	48 hours
	Acute LC50 8800000 ug/L Fresh water	Daphnia - Daphnia pulex - <24 hrs	48 hours
	Acute LC50 5.54 to 6.33 ml/L Fresh water	Fish - Oncorhynchus mykiss - 1 g	96 hours

Conclusion/Summary: Not available.

12.2. Persistence and degradability

Product/ingredient Name	Test	Result	Dose	Inoculum
Acetone	-	91% - 28 days	-	-

Conclusion/Summary: Not available.

Product/ingredient Name	Aquatic half-life	Photolysis	Biodegradability
Acetone	-	-	Readily

12.3. Bioaccumulative potential

Product/ingredient Name	LogP _{ow}	BCF	Potential
Acetone	-0.24	3	Low

12.4. Mobility in Soil

Volatile

12.5. Results of PBT and vPvB Assessment

Not applicable

12.6. Other adverse effects

No known significant effects or critical hazards.

13. Disposal Considerations

13.1. Waste treatment methods

Recommendation

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Waste packaging should be recycled.

Incineration or landfill should only be considered when recycling is not feasible. 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.

Hazardous Waste

Yes

Disposal Considerations

Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

European Waste catalogue (EWC)

07 01 04* Other organic solvents, washing liquids and mother liquors.

14. Transport Information

14.1. UN number

ADR, IMDG, IATA UN 1090

14.2. UN proper shipping name

ADR IMDG IATA Resin Solution, flammable

14.3. Transport hazard class(es)

ADR, IMDG, IATA
Class 3 Flammable liquids.
Label 3



14.4. Packing group

ADR, IMDG, IATA II

14.5. Environmental hazards:

-

14.6. Tunnel Restriction Code

ADR, IMDG, IATA D/E

14.7. Special precautions for user

Warning: Flammable liquids.
Kemler Number: 33

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.

15. Regulatory Information

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

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

CN Code: 2914 11 00

EU regulation (EC) 1907/2006 (REACH)

Annex XIV: None of the components are listed.

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
 VOC: 100% by weight = 790 g/l
 Europe inventory: All components are listed or exempted.

15.2. Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still required.

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]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to regulation (EC) 1271/208 [CLP/GHS]:

Classification	Justification
Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	Regulatory Data

Full Text of Abbreviated H Statements

- H225 – Highly flammable liquid and vapour.
- H319 – Causes serious eye irritation
- H336 - Harmful to aquatic life with long lasting effects
- EUH066 – Repeated exposure may cause skin dryness or cracking.

Full Text of Classifications [CLP/GHS]

- Eye Irrit. 2, H319 - Serious Eye damage / Eye Irritation – Category 2
- Flam. Liq. 2, H225 - Flammable Liquids Category 2
- STOT SE 3, H336 - Specific Target Organ Toxicity (Single Exposure) [Narcotic effects] - Category 3

Note

The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications. The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.

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