

SAFETY DATA SHEET

Solvent

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	: ENGLISH
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SECTION 1: Product name

1.1 Product identifier

Product name : Solvent

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

Material uses : Industrial applications: Use for cleaning the printer and printer components only.

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]

Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects)	Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.
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Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 0%.

Ingredients of unknown ecotoxicity : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 0%.

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

Classification : F; R11 \ Xi; R36 \ R66, R67

Physical/chemical hazards : Highly flammable.

Human health hazards : Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

2.2 Label elements



Danger. Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hazardous ingredients : butanone (CAS 78-93-3, EC 201-159-0).

2.3 Other hazards

Other hazards which do not result in classification : None.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	Identifiers	%	Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]	Type
1) butanone	EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3	92 - <99	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects)	[1] [2]
2) acetone	EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	1 - <3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects)	[1] [2]

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

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

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

Product/ingredient name	Classification according to Directive 1999/45/EC [DPD]
1) butanone	F; R11 \ Xi; R36 \ R66, R67
2) acetone	F; R11 \ Xi; R36 \ R66, R67

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

- 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 10 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 center 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** : Flush contaminated skin with plenty of water. 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. 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. Get medical attention. If necessary, call a poison center 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.

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

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure 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	: No specific data.
Ingestion	: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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

Suitable extinguishing media	: Use dry chemical, CO ₂ , 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.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Special protective actions 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 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.
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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 spilt 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 materials for containment and cleaning up

- Small spill :** 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.
- Large spill :** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

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 contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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. Take precautionary measures against electrostatic discharges. 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.

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.

7.3 Specific end use(s)

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).

SECTION 8: Exposure controls/personal protection

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).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
1) butanone	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 899 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 600 mg/m ³ 8 hours. TWA: 200 ppm 8 hours.
2) acetone	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 3620 mg/m ³ 15 minutes. STEL: 1500 ppm 15 minutes. 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.

Derived effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
butanone	DNEL	Long term Inhalation	600 mg/m ³	Workers	Systemic
acetone	DNEL	Long term Inhalation	1210 mg/m ³	Workers	Systemic

PEC Summary : Not available.

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. Use explosion-proof ventilation equipment.

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: safety glasses with side-shields.

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.

- 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** : Blue
- Odour** : Not available.
- Odour threshold** : Highest known value: 62 ppm. Weighted average: 11 ppm.
- pH** : Not applicable.
- Melting point/freezing point** : May start to solidify at the following temperature: -86 °C. Weighted average: -86 °C.
- Initial boiling point and boiling range** : Lowest known value: 56 °C. Weighted average: 79 °C.
- Flash point** : -9 °C.
- Evaporation rate (butyl acetate = 1)** : Highest known value: 7.1. Weighted average: 7.1.
- Flammability (solid, gas)** : Not applicable. (Liquid)
- Upper/lower flammability or explosive limits** : Lowest known value: 1.8%. Highest known value: 13.0%.
- Vapour pressure** : Highest known value: 180 mm Hg at 20°C. Weighted average: 80 mm Hg at 20°C.
- Vapour density** : >2.0 (Air = 1)
- Relative density (Water = 1)** : 0.804
- Solubility(ies)** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Lowest known value: 404 °C. Weighted average: 405 °C.
- Decomposition temperature** : Thermally stable.
- Viscosity** : Not available.
- Explosive properties** : Not applicable. Not classified.
- Oxidising properties** : Not applicable. Not classified.

9.2 Other information

- Volatility (w/w)** : 99 %.
- VOC Volatility (w/w)** : 99 %.

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

None.

10.5 Incompatible materials

None.

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
butanone	LC50 Inhalation Vapour	Rat	23500 mg/m ³	8 hours
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
acetone	LC50 Inhalation Vapour	Rat	50100 mg/m ³	8 hours
	LD50 Oral	Rat	5800 mg/kg	-

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Acute toxicity estimates

Not classified.

Irritation/Corrosion

Conclusion/Summary

Skin : Not classified. No known significant effects or critical hazards.

Eyes : Causes serious eye irritation.

Respiratory : Not classified. No known significant effects or critical hazards.

Sensitisation

Conclusion/Summary

Skin : Not classified. No known significant effects or critical hazards.

Respiratory : Not classified. No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
butanone	Category 3	Not applicable.	Narcotic effects
acetone	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

Aspiration hazard

Not available.

Conclusion/Summary : Not classified. No known significant effects or critical hazards.

Potential chronic health effects, Other

Conclusion/Summary : No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
butanone	Acute EC50 2029 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	96 hours
	Acute EC50 308 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2993 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1240 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	96 hours
acetone	Acute EC50 11493300 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 8800000 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 6210000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 1 g/L Fresh water	Daphnia - Daphnia magna	21 days

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
butanone	-	-	Readily
acetone	-	-	Readily

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
butanone	0.3	-	low
acetone	-0.23	-	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

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).

13.1 Waste treatment methods

Product

Methods of disposal : 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.

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 : None.

SECTION 14: Transport information

14.1 UN number UN1210

14.2 UN proper shipping name Printing Ink Related Material

14.3 Transport hazard class(es) 3



14.4 Packing group II

14.5 Environmental hazards No.

Additional information Special provisions
640 (C)

Tunnel code
(D/E)

14.6 Special precautions for user

No special measures required.

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)

REACH Status : In compliance.
Pre-registration status: All components are listed or exempted.

Annex XIV - List of substances subject to authorisation

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.

15.2 Chemical Safety Assessment

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

15.3 Other information

Tariff Code - harmonized system : 3402.90 surface-active preparations, washing preparations (including auxiliary washing preparations) and cleaning preparations, whether or not containing soap, other than those of heading 3401: Other.
USA ...50.30
EU ...90.00

Germany water class (WGK) : Wassergefährdungsklasse = 1

Heavy Metals : Total concentration: Pb, Hg, Cd, Cr(VI) < 100 ppm

Chemical Weapons Convention List Schedule I Chemicals	Chemical Weapons Convention List Schedule II Chemicals	Chemical Weapons Convention List Schedule III Chemicals
Not listed	Not listed	Not listed

SECTION 16: Other information

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II & 453/2010

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 Eye Irrit. 2, H319 STOT SE 3, H336 (Narcotic effects)	On basis of test data Calculation method Calculation method

Full text of abbreviated H statements :

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H336 (Narcotic effects) May cause drowsiness or dizziness. (Narcotic effects)

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 (Narcotic effects) SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Full text of abbreviated R phrases :

- R11- Highly flammable.
- R36- Irritating to eyes.
- R66- Repeated exposure may cause skin dryness or cracking.
- R67- Vapours may cause drowsiness and dizziness.

Full text of classifications [DSD/DPD] :

- F - Highly flammable
- Xi - Irritant

DPD: 2.2 Label elements

DPD = Dangerous Preparations Directive [1999/45/EC]

Hazard symbol or symbols : F, Xi



Indication of danger : Highly flammable, Irritant

Risk phrases :

- R11- Highly flammable.
- R36- Irritating to eyes.
- R66- Repeated exposure may cause skin dryness or cracking.
- R67- Vapours may cause drowsiness and dizziness.

Safety phrases : Not applicable.

Hazardous ingredients : butanone

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

