

SAFETY DATA SHEET

Creation Date 28-Apr-2009

Revision Date 06-Mar-2018

Revision Number 1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product Description: **Acetone**
 Cat No. : **01.1380.75**
 Synonyms 2-
 Propanone
 CAS-No 67-64-1
 EC-No. 200-662-2
 Molecular Formula C3 H6 O
 Reach Registration Number -

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

Recommended Use Laboratory chemicals.
 Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
 Product category PC21 - Laboratory chemicals
 Process categories PROC15 - Use as a laboratory reagent
 Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
 Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Total Lab Supplies
 Unit 6, Ketterer Court
 St Helens
 WA9 3AH
 United Kingdom
 Office Tel: +44 (0) 1744 455 000
 Office Fax: +44 (0) 1744 455 001
 E-mail address sales@totallabsupplies.co.uk

1.4. Emergency telephone number

01744 455 000

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids

Category 2 (H225)

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Health hazards

Serious Eye Damage/Eye Irritation
Specific target organ toxicity - (single exposure)

Category 2 (H319)
Category 3 (H336)

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapour
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P280 - Wear eye protection/ face protection
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell

2.3. Other hazards

Substance is not considered persistent, bio accumulative and toxic (PBT) / very persistent and very bio accumulative (vPvB)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|---------------------------|---------|-------------------|----------|--|
| Acetone | 67-64-1 | EEC No. 200-662-2 | >95 | Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336) EUH066 |
| Reach Registration Number | | | | - |

Full text of Hazard Statements: see section 16

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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|---|---|
| General Advice | if symptoms persist, call a physician. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Inhalation | Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. |
| Self-Protection of the First Aider | Remove all sources of ignition. Use personal protective equipment. |

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

None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema: Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

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

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons

do not use water jet.

5.2. Special hazards arising from the substance or mixture

Flammable. Risk of ignition. Containers may explode when heated. Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Formaldehyde, Methanol.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as

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amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

| Component | The United Kingdom | European Union | Ireland |
|-----------|---|---|---|
| Acetone | TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 1500 ppm STEL: 3620 mg/m ³ | TWA: 500 ppm 8 hr TWA: 1210 mg/m ³ 8 hr | TWA: 500 ppm 8 hr. TWA: 1210 mg/m ³ 8 hr. STEL: 1500 ppm 15 min STEL: 3630 mg/m ³ 15 min |

Biological limit values

List source(s):

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General Methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Derived No Effect Level (DNEL) See table for values

| <u>Route of exposure</u> | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|--------------------------|------------------------|--------------------------|-------------------------|----------------------------|
| Oral | | | | |
| Dermal | | | | 186 mg/kg |
| Inhalation | 2420 mg/m ³ | | | 1210 mg/m ³ |

Predicted No Effect Concentration (PNEC) See values below.

| | |
|------------------------------------|------------|
| Fresh water | 10.6 mg/l |
| Fresh water sediment | 30.4 mg/kg |
| Marine water | 1.06 mg/l |
| Marine water sediment | 3.04 mg/kg |
| Water Intermittent | 21 mg/l |
| Microorganisms in sewage treatment | 100 mg/l |
| Soil (Agriculture) | 29.5 mg/kg |

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-------------------|-----------------|-------------|----------------|
| | | | | |

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| | | | | |
|-----------------|---------------|---------|----------------|--|
| Butyl rubber | > 480 minutes | 0.5 mm | EN 374 Level 6 | As tested under EN374-3 Determination of Resistance to Permeation by Chemicals |
| Neoprene gloves | < 30 minutes | 0.45 mm | | |

Skin and body protection long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. Sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: low boiling organic solvent Type AX Brown conforming to EN371

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Do not allow material to contaminate ground water system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | |
|-------------------------------------|---|--|
| Appearance | Colourless | |
| Physical State | Liquid | Method - Closed cup |
| Odour | sweet | |
| Odour Threshold | 19.8 ppm | Liquid |
| pH | 7 | |
| Melting Point/Range | -95 °C / -139 °F | |
| Softening Point | No data available | (Air = 1.0) |
| Boiling Point/Range | 56 °C / 132.8 °F | |
| Flash Point | -20 °C / -4 °F | Liquid |
| Evaporation Rate | 5.6 (Butyl Acetate = 1.0) | |
| Flammability (solid, gas) | Not applicable | |
| Explosion Limits | Lower 2.1 vol% Upper 13 vol% | |
| Vapour Pressure | 247 mbar @ 20 °C | |
| Vapour Density | 2.0 | |
| Specific Gravity / Density | 0.790 | |
| Bulk Density | Not applicable | |
| Water Solubility | soluble | Vapours may form explosive mixtures with air |
| Solubility in other solvents | No information available | |

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Partition Coefficient (n-octanol/water)

| | |
|----------------------------------|--------------------|
| Component | log Pow |
| Acetone | -0.24 |
| Autoignition Temperature | 465 °C / 869 °F |
| Decomposition Temperature | > 4°C |
| Viscosity | 0.32 mPa.s @ 20 °C |
| Explosive Properties | Not explosive |
| Oxidizing Properties | Not oxidising |

9.2. Other information

| | |
|--------------------------|---------------|
| Molecular Formula | C3 H6 O |
| Molecular Weight | 58.08 |
| Refractive index | 1.358 - 1.359 |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

| | |
|---------------------------------|--|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

10.4. Conditions to avoid

Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong reducing agents. Strong bases. Peroxides. Halogenated compounds. Alkali metals. Amines.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Formaldehyde. Methanol.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) Acute toxicity;

| | |
|-------------------|--|
| Oral | Based on available data, the classification criteria are not met |
| Dermal | Based on available data, the classification criteria are not met |
| Inhalation | the classification criteria are not met |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|--------------------|--|---------------------|
| Acetone | 5800 mg/kg (Rat) | > 15800 mg/kg (rabbit) > 7400 mg/kg (rat) | 76 mg/l, 4 h, (rat) |

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(b) **skin corrosion/irritation;** Based on available data, the classification criteria are not met

(c) **serious eye damage/irritation;** Category 2

Test method OECD Test Guideline 405
Test species rabbit **Observation end point** Irritating to eyes

(d) **Respiratory or skin sensitization;**

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

(e) **germ cell mutagenicity;** Based on available data, the classification criteria are not met

| Component | Test method | Test species | Study result |
|----------------------------|--|--------------|--------------|
| Acetone 67-64-1 (>95) | OECD Test Guideline 471 AMES test | in vivo | negative |
| | ----- | ----- | ----- |
| | OECD Test Guideline 476 Mammalian Gene cell mutation | in vitro | negative |

(f) **carcinogenicity;** Based on available data, the classification criteria are not met
 There are no known carcinogenic chemicals in this product

Based on available data, the classification criteria are not met

(g) **reproductive toxicity;**

(h) **STOT-single exposure;** Category 3

Results / Target organs Central nervous system (CNS).

(i) **STOT-repeated exposure;** Based on available data, the classification criteria are not met

Target Organs None known.

(j) **aspiration hazard;** Based on available data, the classification criteria are not met

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: **delayed** May cause pulmonary edema: Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-----------|---|--|----------------------------------|-----------------------------|
| Acetone | Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h | EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h | NOEC = 430 mg/l (algae; 96 h) | EC50 = 14500 mg/L/15 min |

12.2. Persistence and degradability readily biodegradable

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Persistence Persistence is unlikely, based on information available.

| Component | Degradability |
|----------------------------|--------------------------|
| Acetone 67-64-1 (>95) | 91 % (28 d) (OECD 301 B) |

12.3. Bio accumulative potential Bioaccumulation is unlikely

| Component | log Pow | Bio concentration factor (BCF) |
|-----------|---------|--------------------------------|
| Acetone | -0.24 | 0.69 |

12.4. Mobility in soil the product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces will likely be mobile in the environment due to its volatility. Disperses rapidly in air

12.5. Results of PBT and vPvB assessment Substance is not considered persistent, bio accumulative and toxic (PBT) / very persistent and very bio accumulative (vPvB).

12.6. Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant This product does not contain any known or suspected substance

Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapour), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product was used. Do not dispose of waste into sewer. Can be incinerated, when in compliance with local regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

| | |
|---|---------|
| 14.1. UN number | UN1090 |
| 14.2. UN proper shipping name | ACETONE |
| 14.3. Transport hazard class(es) | 3 |
| 14.4. Packing group | II |

ADR

| | |
|---|---------|
| 14.1. UN number | UN1090 |
| 14.2. UN proper shipping name | ACETONE |
| 14.3. Transport hazard class(es) | 3 |

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14.4. Packing group II

IATA

14.1. UN number UN1090
14.2. UN proper shipping name ACETONE
14.3. Transport hazard class(es) 3
14.4. Packing group II

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Not applicable, packaged goods

Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|-----------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Acetone | 200-662-2 | - | | X | X | - | X | X | X | X | X |

National Regulations

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|-----------|--|-------------------------|
| Acetone | WGK 1 | |

| Component | France - INRS (Tables of occupational diseases) |
|-----------|--|
| Acetone | Tableaux des maladies professionnelles (TMP) - RG 84 |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has been conducted by the manufacturer/importer

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
EUH066 - Repeated exposure may cause skin dryness or cracking
H225 - Highly flammable liquid and vapour

Legend

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CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bio accumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol: Water

vPvB - very Persistent, very Bio accumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bio concentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Prepared By Health, Safety and Environmental Department

Creation Date 28-Apr-2009

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Revision Summary SDS authoring systems update, replaces ChemGes SDS No. 67-64-1.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet