



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

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

1.1 Product identifier

Product Name 2-Butanone
 CAS No. 78-93-3
 EC No. 201-159-0
 REACH Registration No.

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

Identified Use(s) PC21 Laboratory chemicals
 Uses Advised Against Not known.

1.3 Details of the supplier of the safety data sheet

Manufacturer

Company Identification Rathburn Chemicals Ltd
 Address of Manufacturer 6 Caberston Road
 Walkerburn
 Peeblesshire
 Scotland
 Postal code EH43 6AU
 Telephone: 00 (44) (0) 1 896 870 651
 E-mail sales@rathburn.co.uk
 Office hours 09:00 – 17:00
 Supplier

Company Identification Address of Supplier

Rathburn Chemicals Ltd
 6 Caberston Road
 Walkerburn
 Peeblesshire
 Scotland
 EH43 6AU
 Telephone: 00 (44) (0) 1 896 870 651
 E-mail sales@rathburn.co.uk
 Office hours 09:00 – 17:00

1.4 Emergency telephone number

Emergency Phone No. 00 (44) (0) 1 896 870 651 or 00 (44) (0) 7807 520501
 Contact Roddy Stoddart.

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP) Flam. Liq. 2 :Highly flammable liquid and vapour.
 Eye Irrit. 2 :Causes serious eye irritation.
 STOT SE 3 :May cause drowsiness or dizziness.

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)
 Product Name 2-Butanone

Hazard Pictogram(s)



GHS02



GHS07

Signal Word(s)

Danger

Hazard Statement(s)

H225: Highly flammable liquid and vapour.
 H319: Causes serious eye irritation.
 H336: May cause drowsiness or dizziness.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.



P233: Keep container tightly closed.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P370+P378: In case of fire: Use water spray, dry powder or carbon dioxide to extinguish.
 P403+P235: Store in a well-ventilated place. Keep cool.

2.3 Other hazards

None known.

2.4 Additional Information

For full text of H/P Statements see section 16.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / REACH Registration No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
butanone ethyl methyl ketone	78-93-3	201-159-0	100	Flam. Liq. 2 H225 Eye Irrit. 2 H319 STOT SE 3 H336	GHS02 GHS07

3.2 Mixtures

Not applicable.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
 Skin Contact Take off immediately all contaminated clothing. Rinse skin with water.
 Eye Contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
 Ingestion Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

May cause irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Call a POISON CENTER/doctor if you feel unwell. Treat symptomatically.

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media Use water spray, dry powder or carbon dioxide to extinguish.
 Unsuitable extinguishing media Water jet spray

5.2 Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. May decompose in a fire, giving off toxic and irritant vapours.

5.3 Advice for firefighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. If it is safe to do so, containers should be removed from fire area because they are likely to rupture under fire conditions.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Ensure full personal protection (including respiratory protection) during removal of spillages.

6.2 Environmental precautions



Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Absorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Containers must not be punctured or destroyed by burning, even when empty.

6.4 Reference to other sections

See Also Section 8, 13.

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands and exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Storage temperature

Ambient.

Storage life

Stable under normal conditions.

Incompatible materials

None known.

7.3 Specific end use(s)

PC21 Laboratory chemicals

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Butan-2-one (methyl ethyl ketone)	78-93-3	200	600	300	899	Sk, BMGV
Butanone	78-93-3	200	600	300	900	IOELV

Region	Source
EU	EU Occupational Exposure Limits
United Kingdom	UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)

Remark	Notes
Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.
BMGV	Biological monitoring guidance values are listed in Table 2.
IOELV	Indicative Occupational Exposure Limit Values.

Biological Exposure Indices						
Substances	CAS Number	Sampling	Tissues	Control parameters	Biological monitoring guidance value	Comments
Butan-2-one	78-93-3	70 µmol butan-2-one/L in urine	Post shift			

Remark	Notes
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8.2 Exposure controls

8.2.1. Appropriate engineering controls Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Ensure adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

8.2.2. Personal protection equipment



Eye Protection Wear eye protection with side protection (EN166).



Skin protection Wear protective clothing and gloves: Impervious gloves (EN 374).



Respiratory protection Normally no personal respiratory protection is necessary.



Thermal hazards None known.

8.2.3. Environmental Exposure Controls Avoid release to the environment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid. Colour : Colourless
Odour	Not known.
Odour threshold	Not known.
pH	Not known.
Melting point/freezing point	-87C
Initial boiling point and boiling range	80C
Flash Point	-3C - closed cup
Evaporation rate	Not known.
Flammability (solid, gas)	Not known.
Upper/lower flammability or explosive limits	Upper 10.1% (V), Lower 1.8% (V)
Vapour pressure	95 hPa at 20C
Vapour density	Not known.
Density (g/ml)	Not known.
Relative density	0.805
Solubility(ies)	Solubility (Water) : Not known. Solubility (Other) : Not known.
Partition coefficient: n-octanol/water	Not known.
Auto-ignition temperature	-3C
Decomposition Temperature (°C)	Not known.
Viscosity	Not known.
Explosive properties	Not known.
Oxidising properties	Not known.

9.2 Other information

H336: May cause drowsiness or dizziness.

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

None anticipated.

10.2 Chemical Stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose.

10.4 Conditions to avoid

Avoid friction, sparks, or other means of ignition.

10.5 Incompatible materials

Not known.



10.6 Hazardous decomposition products

No hazardous decomposition products known.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Low acute toxicity
Acute toxicity - Skin Contact	Low acute toxicity
Acute toxicity - Inhalation	Low acute toxicity
Skin corrosion/irritation	Non-irritant
Serious eye damage/irritation	Causes serious eye irritation.
Skin sensitization data	Not classified
Respiratory sensitization data	Not classified
Germ cell mutagenicity	There is no evidence of mutagenic potential.
Carcinogenicity	No evidence of carcinogenicity.
Reproductive toxicity	Not classified
Lactation	Not classified
STOT - single exposure	May cause drowsiness or dizziness.
STOT - repeated exposure	Not classified
Aspiration hazard	Not classified

11.2 Other information

Not known.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Aquatic invertebrates	Low toxicity to invertebrates.
Toxicity - Fish	Low toxicity to fish.
Toxicity - Algae	Low toxicity to algae.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

12.2 Persistence and Degradation

Not known.

12.3 Bioaccumulative potential

Not known.

12.4 Mobility in soil

Not known.

12.5 Results of PBT and vPvB assessment

Not known.

12.6 Other adverse effects

Not known.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of contents in accordance with local, state or national legislation. Recycle only completely emptied packaging. Containers must not be punctured or destroyed by burning, even when empty. Do not allow to enter drains, sewers or watercourses. Do NOT landfill. Normal disposal is via incineration operated by an accredited disposal contractor. Send to a licensed recycler, reclaimer or incinerator. Dispose at suitable refuse site.

13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN No. 1193

14.2 UN proper shipping name

UN proper shipping name ETHYL METHYL KETONE (METHYL ETHYL KETONE)

14.3 Transport hazard class(es)

ADR/RID Class 3

IMDG Class 3



IMDG EMS	F-E, S-D
ICAO/IATA	
Excepted Quantities	E2
Passenger and Cargo Aircraft Limited Quantities Packing Instructions	Y341
Passenger and Cargo Aircraft Limited Quantities Max net Qty	1L
Passenger and Cargo Aircraft Packing Instructions	353
Passenger and Cargo Aircraft Max net Qty	5L
Cargo Aircraft Packing Instructions	364
Cargo Aircraft Max net Qty	60L
Special Provisions	
Emergency Response Guidebook (ERG) Code	3L
ADR Classification Code	F1
ADR HIN	33
ADR Transport Category	2
Tunnel Restriction Code	D/E
Emergency Action Code	•2YE
APP Advice on Additional Personal Protection (APP)	
14.4 Packing group	
Packing group	II
Labels	3



Special Provisions	
Limited Quantities	1 L
Excepted Quantities	E2
Mixed Packing Instructions for Packages	P001 IBC02 R001
Special Packing Provisions for Packages	
Mixed Packing Instructions for Packages	MP19
14.5 Environmental hazards	
Environmental hazards	Not classified as a Marine Pollutant.
14.6 Special precautions for user	
Special precautions for user	Not known.
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	
Packing Instructions for Portable Tanks	T4
Special Provisions for Portable Tanks	TP1
Tank Code for Tanks	LGBF
Special Provisions for Tanks	
Vehicle for Tank Carriage	FL
Special Provisions for Carriage - Packages	
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, Unloading and Handling	
Special Provisions for Carriage - Operation	S2 S20

15. SECTION 15: REGULATORY INFORMATION

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

European Regulations - Authorisations and/or Restrictions On Use	
Candidate List of Substances of Very High Concern for Authorisation	Not listed
REACH: ANNEX XIV list of substances subject to authorisation	Not listed
REACH: Annex XVII Restrictions on the manufacture, placing on the market and	butanone ethyl methyl ketone (78-93-3)



use of certain dangerous substances,
mixtures and articles

Community Rolling Action Plan (CoRAP) Not listed
Regulation (EC) N° 850/2004 of the
European Parliament and of the Council
on persistent organic pollutants
Regulation (EC) N° 1005/2009 on
substances that deplete the ozone layer
Regulation (EU) N° 649/2012 of the
European Parliament and of the Council
concerning the export and import of
hazardous chemicals

National regulations

Other Not known.

15.2 Chemical Safety Assessment

A REACH chemical safety assessment has not been carried out.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

LEGEND

Hazard Pictogram(s)



GHS02



GHS07

Hazard Statement(s)

H225: Highly flammable liquid and vapour.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands and exposed skin thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312: Call a POISON CENTER/doctor if you feel unwell.
P337+P313: If eye irritation persists: Get medical advice/attention.
P370+P378: In case of fire: Use water spray, dry powder or carbon dioxide to extinguish.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Acronyms

P501: Dispose of contents in accordance with local, state or national legislation.
ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways



ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS : Chemical Abstracts Service
CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL : Derived No Effect Level
EC : European Community
EINECS : European Inventory of Existing Commercial Chemical Substances
IATA : International Air Transport Association
IBC : Intermediate Bulk Container
ICAO : International Civil Aviation Organization
IMDG : International Maritime Dangerous Goods
LTEL : Long term exposure limit
PBT : Persistent, Bioaccumulative and Toxic
PNEC : Predicted No Effect Concentration
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals
RID : Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL : Short term exposure limit
STOT : Specific Target Organ Toxicity
UN : United Nations
vPvB : very Persistent and very Bioaccumulative

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