

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.07.2017

Version number 7

Revision: 03.07.2017

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

- 1.1 Product identifier
- Trade name: **TM 12**
- Article number: 1301103
- CAS Number:
78-93-3
- EC number:
201-159-0
- Index number:
606-002-00-3
- Registration number 01-2119457290-43
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- Sector of Use
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Process category
 - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
 - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 - PROC4 Chemical production where opportunity for exposure arises
 - PROC5 Mixing or blending in batch processes
 - PROC7 Industrial spraying
 - PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 - PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 - PROC11 Non industrial spraying
 - PROC13 Treatment of articles by dipping and pouring
 - PROC14 Tableting, compression, extrusion, pelletisation, granulation
 - PROC15 Use as laboratory reagent
 - PROC19 Manual activities involving hand contact
- Environmental release category
 - ERC1 Manufacture of the substance
 - ERC2 Formulation into mixture
 - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
 - ERC6a Use of intermediate
 - ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
 - ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
 - ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
- Application of the substance / the mixture Thinner, Diluent
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
 - Inter-Che-M B.V.
 - Platinawerf 22-26, 6641TL Beuningen
 - Postbus 9, 6640AA Beuningen
 - Holland
 - T +31 (0)24 678 02 20
 - F +31(0)24 678 02 05
 - E verkoop@interchem.nl
 - W www.interchem.nl
- Further information obtainable from: Product safety department: p.i.@interchem.nl
- 1.4 Emergency telephone number:
 - National Poisoning Information Centre - Bilthoven - The Netherlands
 - T +31 (0)30 274 88 88
 - Restricted to physicians for information on ingredients.

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SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H336 May cause drowsiness or dizziness.

- 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS02



GHS07

- Signal word Danger
- Hazard-determining components of labelling:
butanone
- Hazard statements
H225 Highly flammable liquid and vapour.
H332 Harmful if inhaled.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
- Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Additional information:
EUH066 Repeated exposure may cause skin dryness or cracking.
- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterisation: Substances
- CAS No. Description
78-93-3 butanone
- Identification number(s)
- EC number: 201-159-0
- Index number: 606-002-00-3

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SECTION 4: First aid measures

- 4.1 Description of first aid measures
- General information:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately rinse with water.
- After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Remove contactlenses.
- After swallowing:
Do not induce vomiting; call for medical help immediately.
Rinse mouth.
- 4.2 Most important symptoms and effects, both acute and delayed Headache
- 4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- Suitable extinguishing agents: CO₂ or powder. Fight larger fights with alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- 5.2 Special hazards arising from the substance or mixture Carbon monoxide (CO)
- 5.3 Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- 6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- Information about fire - and explosion protection:
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- 7.2 Conditions for safe storage, including any incompatibilities
- Storage:
Requirements to be met by storerooms and receptacles:
Store in a cool location.
Store only in the original receptacle.
- Information about storage in one common storage facility: Store away from oxidising agents.
- Further information about storage conditions: Keep container tightly sealed.
- Storage class: 3

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- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.

· 8.1 Control parameters

- Ingredients with limit values that require monitoring at the workplace:

78-93-3 butanone

IOELV Short-term value: 900 mg/m³, 300 ppmLong-term value: 600 mg/m³, 200 ppm

· DNELs

Dermal Long-term exposure - systemic effects 1161 mg/kg bw/day (worker)

Inhalative Long-term exposure - systemic effects 600 mg/m³ (worker)

78-93-3 butanone

Dermal Long-term exposure - systemic effects 1161 mg/kg bw/day (worker)

Inhalative Long-term exposure - systemic effects 600 mg/m³ (worker)

· PNECs

PNEC 22.5 mg/kg (bd)

284.7 mg/kg (sediment marine water)

284.7 mg/kg (sediment freshwater)

PNEC 709 mg/l (STP)

55.8 mg/l (aqua, freshwater)

55.8 mg/l (aqua, marine water)

55.8 mg/l (intermittent release water)

78-93-3 butanone

PNEC 284.7 mg/kg (sediment marine water)

284.74 mg/kg (sediment freshwater)

22.5 mg/kg (soil)

PNEC 709 mg/l (STP)

55.8 mg/l (aqua, freshwater)

55.8 mg/l (aqua, intermittent releases)

55.8 mg/l (aqua, marine water)

- Additional information: The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Short term filter device:

· Protection of hands:

The glove material has to be impermeable and resistant to the product.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Suitable materials for safety gloves (EN 374):

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Butyl rubber, BR

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- Penetration time of glove material
Thickness of the gloves ≥ 0.06 mm (butanone)
Value for the permeation: Level ≥ 240 min (butanone)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection:



Tightly sealed goggles

- Body protection: Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
- General Information
- Appearance:
 - Form: Liquid
 - Colour: Colourless
- Odour: Pleasant
- Odour threshold: Not determined.
- pH-value: Not determined.
- Change in condition
 - Melting point/freezing point: -86.3 °C
 - Initial boiling point and boiling range: $79-80.5$ °C
- Flash point: -4 °C
- Flammability (solid, gas): Not applicable.
- Ignition temperature: 514 °C
- Decomposition temperature: Not determined.
- Auto-ignition temperature: Not determined.
- Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- Explosion limits:
 - Lower: 1.8 Vol %
 - Upper: 11.5 Vol %
- Vapour pressure at 20 °C: 105 hPa
- Density at 20 °C: 0.8 g/cm³
- Relative density: Not determined.
- Vapour density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with water at 20 °C: 290 g/l
Slightly soluble.
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity:
 - Dynamic at 20 °C: 0.4 mPas
 - Kinematic: Not determined.
- Solvent content:
 - Organic solvents: 100.0 %
 - VOC (EC) 100.00 %

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· 9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity No further relevant information available.
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions Reacts with strong oxidizing agents.
- 10.4 Conditions to avoid High temperatures.
- 10.5 Incompatible materials: Oxidizing agents.
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity
Harmful if inhaled.
- LD/LC50 values relevant for classification:

Oral	LD50	>2193 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit) (OESO 402)
- **78-93-3 butanone**

Oral	LD50	>2500 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/4h	20 mg/l (rat)
- Primary irritant effect:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation
Causes serious eye irritation.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure
May cause drowsiness or dizziness.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- 12.1 Toxicity
- Aquatic toxicity:

EC50/48h	308 mg/l (daphnia magna) (OESO 202)
EC50/72h	1972 mg/l (pseudokirchneriella subcapitata) (OESO 201)
LC50/96h	2993 mg/l (pimphales promelas) (OESO 203)

78-93-3 butanone

- | | |
|----------|---------------------------------|
| EC50/48h | >5000 mg/l (daphnia magna) |
| LC50/96h | >2500 mg/l (pimphales promelas) |
- 12.2 Persistence and degradability No further relevant information available.
 - 12.3 Bioaccumulative potential No further relevant information available.
 - 12.4 Mobility in soil No further relevant information available.
 - Additional ecological information:
 - General notes:
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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- 12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
- Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- European waste catalogue
07 01 04* other organic solvents, washing liquids and mother liquors
- Uncleaned packaging:
- Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

- 14.1 UN-Number
- ADR/ADN, IMDG, IATA
- 14.2 UN proper shipping name
- ADR/ADN
- IMDG, IATA
- 14.3 Transport hazard class(es)
- ADR/ADN, IMDG, IATA

UN1193

1193 ETHYL METHYL KETONE (METHYL ETHYL KETONE)
ETHYL METHYL KETONE (METHYL ETHYL KETONE)

- Class
- Label
- 14.4 Packing group
- ADR/ADN, IMDG, IATA
- 14.5 Environmental hazards:
- Marine pollutant:
- 14.6 Special precautions for user
- Danger code (Kemler):
- EMS Number:
- Stowage Category
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

3 Flammable liquids.

3

II

No

Warning: Flammable liquids.

33

F-E,S-D

B

Not applicable.

- Transport/Additional information:

- ADR/ADN

- Limited quantities (LQ)

- Excepted quantities (EQ)

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

- Transport category

2

- Tunnel restriction code

D/E

- IMDG

- Limited quantities (LQ)

- Excepted quantities (EQ)

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

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· UN "Model Regulation":

UN 1193 ETHYL METHYL KETONE (METHYL ETHYL KETONE), 3, II

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
 - Directive 2012/18/EU
 - Named dangerous substances - ANNEX I Substance is not listed.
 - Seveso category P5c FLAMMABLE LIQUIDS
 - Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
 - Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
 - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- National regulations:
- Other regulations, limitations and prohibitive regulations
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.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Product safety department.
- Contact: Ing. R. Derks
- Abbreviations and acronyms:
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - VOC: Volatile Organic Compounds (USA, EU)
 - DNEL: Derived No-Effect Level (REACH)
 - PNEC: Predicted No-Effect Concentration (REACH)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - Flam. Liq. 2: Flammable liquids – Category 2
 - Acute Tox. 4: Acute toxicity – Category 4
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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