



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.01.2019

Version number 1

Revision: 07.01.2019

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

· 1.1 Product identifier

- **Trade name:** Apple 2500-fold (ref.-no. 2018.2231)
- **Chemical Identification:** Apple, Malus sylvestris, ext.

· **Article number:** 2006#0096

· **CAS Number:**

85251-63-4

· **EC number:**

286-475-7

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

No further relevant information available.

· **Application of the substance / the mixture** Flavours

· 1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

MCI Miritz Citrus Intercontinental GmbH & Co. KG

Citrusstr. 3

D-37318 Kirchgandern

Tel: 0049-36081-621-0

e-mail: info@miritz.de

MCI Miritz Citrus GmbH & Co. KG

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MCI Miritz Citrus Ingredients LLC

28 Railroad Avenue

Warwick, NY 10990

USA

· **Further information obtainable from:**

Department Regulatory Affairs

Tel.: 0049-36081-621-0

info@miritz.de

· **1.4 Emergency telephone number:**

MCI Miritz Germany: 0049-(0)-170-9131244

Chemtrec USA: 001-1-800-424-9300

Emergency Number China: 0086-532-8388-9090

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

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

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 2 H371 May cause damage to organs.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

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· Hazard pictograms

GHS02 GHS07 GHS08

· Signal word Danger**· Hazard-determining components of labelling:**

methanol

butan-1-ol

· Hazard statements

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H371 May cause damage to organs.

· Precautionary statements

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

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards Can cause dry skin.**· 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**85251-63-4 Apple, *Malus sylvestris*, ext.**· Identification number(s)**

EINECS CAS 85251-63-4

EINECS 286-475-7

Apple, *Malus sylvestris*, ext.**· EC number:** 286-475-7**· Additional information:** For the wording of the listed hazard phrases refer to section 16.

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· Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6	ethanol Flam. Liq. 2, H225	25-50%
CAS: 67-56-1 EINECS: 200-659-6	methanol Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	2.5-10%
CAS: 71-36-3 EINECS: 200-751-6	butan-1-ol Flam. Liq. 3, H226; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336	≤1%
CAS: 75-07-0 EINECS: 200-836-8	acetaldehyde Flam. Liq. 1, H224; Carc. 2, H351; Acute Tox. 4, H302; Eye Irrit. 2, H319; STOT SE 3, H335	≤1%
CAS: 6728-26-3 EINECS: 229-778-1	Hexen-2-al Flam. Liq. 3, H226; Acute Tox. 3, H311; Acute Tox. 4, H302	≤1%

SECTION 4: First aid measures

· 4.1 Description of first aid measures**· General information:**

If health disorder happens, call for medical help immediately.

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; consult doctor in case of complaints.

· **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.

· **After swallowing:** Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **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, alcohol resistant foam, powder, water spray.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Smoke and soot

During heating or in case of fire poisonous gases are produced.

Do not use water with full jet to prevent fire spreading.

· 5.3 Advice for firefighters**· Protective equipment:**

Wear self-contained respiratory protective device.

Mouth respiratory protective device.

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· Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Follow safety measures in chapter 7 and 8.

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Do not allow to penetrate the ground/soil.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Wipe up little amounts with absorbent material like cloth or pulp.

Absorb with incombustible liquid-binding material (sand, diatomite, universal binders).

Dispose of 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

personal protection equipment see point 8.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· 7.2 Conditions for safe storage, including any incompatibilities**· Storage:****· Requirements to be met by storerooms and receptacles:**

Store only in unopened original receptacles.

Provide solvent resistant, sealed floor.

Store in a cool location.

· Information about storage in one common storage facility: Store away from oxidising agents.**· Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· Storage class: 3**· Classification according to Betriebssicherheitsverordnung (BetrSichV) Flammable liquid****· 7.3 Specific end use(s) No further relevant information available.**

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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:**

64-17-5 ethanol	
AGW (Germany)	Long-term value: 380 mg/m ³ , 200 ppm 4(II);DFG, Y
67-56-1 methanol	
AGW (Germany)	Long-term value: 270 mg/m ³ , 200 ppm 4(II);DFG, EU, H, Y
71-36-3 butan-1-ol	
AGW (Germany)	Long-term value: 310 mg/m ³ , 100 ppm 1(I);DFG, Y
75-07-0 acetaldehyde	
AGW (Germany)	Long-term value: 91 mg/m ³ , 50 ppm 1;=2=(I);AGS, DFG, Y

· **Ingredients with biological limit values:**

67-56-1 methanol	
BGW (Germany)	30 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Parameter: Methanol
71-36-3 butan-1-ol	
BGW (Germany)	2 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: vor nachfolgender Schicht Parameter: Butan-1-ol (1-Butanol) (nach Hydrolyse)
	10 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Butan-1-ol (1-Butanol) (nach Hydrolyse)

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

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Use personal protective equipment depending on concentration and amount of hazardous substance.

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:**

Suitable respiratory protection: filter class A2 (brown colour).

Use the rules for application of respiratory protection systems.

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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.

· **Protection of hands:**

Preventive skin protection by use of skin-protecting agents is recommended.



Protective gloves

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

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

· **Material of gloves**

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.

· **Penetration time of glove material**

> 480 minutes at layerthickness of 0,425 millimeter (Sol-Vex 37-695/Ansell).

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

E.g. following product: Sol-Vex (37-695) from Ansell.

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

· **Eye protection:**



Tightly sealed goggles according to EN 166:2001

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Clear

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: >35 °C

· **Flash point:** 19 °C (ASTM D7094)

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 425 °C

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· Decomposition temperature:	<i>Not determined.</i>
· Auto-ignition temperature:	<i>Not determined.</i>
· Explosive properties:	<i>Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</i>
· Explosion limits:	
Lower:	<i>3.5 Vol %</i>
Upper:	<i>15 Vol %</i>
· Vapour pressure at 20 °C:	<i>59 hPa</i>
· Density at 20 °C:	<i>0.935 g/cm³</i>
· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with water:	<i>Fully miscible.</i>
· Partition coefficient: n-octanol/water:	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
Water:	<i>60.0 %</i>
· 9.2 Other information	<i>No further relevant information available.</i>

SECTION 10: Stability and reactivity

- **10.1 Reactivity** *No further relevant information available.*
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Heating causes vaporisation and formation of ignitable atmosphere is possible.
- **10.3 Possibility of hazardous reactions**
Formation of explosive gas mixture with air possible.
Reacts violently with oxidising agents.
- **10.4 Conditions to avoid** *No further relevant information available.*
- **10.5 Incompatible materials:** *No further relevant information available.*
- **10.6 Hazardous decomposition products:**
No dangerous decomposition products expected by intended use.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

LD/LC50 values relevant for classification:

64-17-5 ethanol		
Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/l (rat)

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71-36-3 butan-1-ol		
Oral	LD50	790 mg/kg (rat)
Inhalative	LD50	3,400 mg/kg (rabbit)
	LC50/4 h	8,000 mg/l (rat)
75-07-0 acetaldehyde		
Oral	LD50	661 mg/kg (rat)
Inhalative	LC50/4 h	37 mg/l (rat)
141-78-6 ethyl acetate		
Oral	LD50	5,620 mg/kg (rabbit)
Inhalative	LC50/4 h	1,600 mg/l (rat)
137-32-6 2-methylbutanol		
Oral	LD50	1,000 mg/kg (rat)
Inhalative	LD50	3,540 mg/kg (rabbit)
6728-26-3 Hexen-2-al		
Oral	LD50	780 mg/kg (rat)
Inhalative	LD50	600 mg/kg (rabbit)
111-27-3 hexan-1-ol		
Oral	LD50	720 mg/kg (rat)
Inhalative	LD50	3,100 mg/kg (rabbit)
71-23-8 propan-1-ol		
Oral	LD50	1,870 mg/kg (rat)
Inhalative	LD50	5,040 mg/kg (rabbit)
928-95-0 trans-2-Hexenol		
Oral	LD50	3,500 mg/kg (rat)
Inhalative	LD50	4,500 mg/kg (rabbit)
123-86-4 n-butyl acetate		
Oral	LD50	13,100 mg/kg (rat)
Inhalative	LD50	>5,000 mg/kg (rabbit)
	LC50/4 h	>21 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.
- **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 damage to organs.
- **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.

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SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.
- **Ecotoxicological effects:**
- **Remark:** Quantitative data according to the ecological effects are not available.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water
- **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**
Recycling is preferred to disposal or burning.
Disposal must be made according to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

02 00 00	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 03 00	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 03	wastes from solvent extraction

- **Uncleaned packaging:**
- **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN1197
- **14.2 UN proper shipping name**
- **ADR** 1197 EXTRACTS, FLAVOURING, LIQUID, special provision 640D

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· **IMDG, IATA****EXTRACTS, FLAVOURING, LIQUID**· **14.3 Transport hazard class(es)**· **ADR**· **Class**

3 (F1) Flammable liquids.

· **Label**

3

· **IMDG, IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

33

· **EMS Number:**

F-E,S-D

· **Stowage Category**

B

· **14.7 Transport in bulk according to Annex II of
Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

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)**

5L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**UN 1197 EXTRACTS, FLAVOURING, LIQUID,
SPECIAL PROVISION 640D, 3, II

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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, 69

· **National regulations:**

· **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

· **Breakdown regulations:**

Critical quantity values according to the regulations on accidents should be adhered to.

· **Technical instructions (air):**

Class	Share in %
Wasser	50-100
I	2.5-10
NK	25-50

- **Waterhazard class:** Water hazard class 2 (Assessment by list): hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

Comply with the rules and regulations of skin protection.

Comply with the rules and regulations of respiratory protection.

According to exposition (skin contact, inhalation) preventive medical checkup is necessary (GefStoffV/ArbMedVV).

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not 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.

· **Relevant phrases**

H224 Extremely flammable liquid and vapour.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H370 Causes damage to organs.

- **Recommended restriction of use** For industrial application only.

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· **Department issuing SDS:** Regulatory Affairs

· **Contact:**

Department Regulatory Affairs

Tel.: 0049-36081-621-0

info@mirlitz.de

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 1: Flammable liquids – Category 1

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Carc. 2: Carcinogenicity – Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3