

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

## SECTION 01: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

- Trade name:  
Verbena absolute
- Article number:  
F3145
- CAS Number:  
8024-12-2
- EC Number:  
285-515-0
- No CAS EINECS:  
85116-63-8

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

Application of the substance / the preparation

Flavouring agent

Only for industrial use

### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

BIOLANDES, BP2

TEL: +33(0)5.58.51.00.00

2760 Route de Bélis

email: fds@biolandes.com

40420 LE SEN

FRANCE

### 1.4 Emergency telephone number:

FR-ORFILA (INRS): +33(0)1 45 42 59 59

## SECTION 02: Hazards identification

### 2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008



GHS08

Asp. Tox. 1 - H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 - H315 Causes skin irritation.

Eye Irrit. 2 - H319 Causes serious eye irritation.

Skin Sens. 1 - H317 May cause an allergic skin reaction.



GHS09

Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms



GHS08



GHS07



GHS09

- Signal word

Danger

- Hazard statements

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

(continued on page 2)

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :      Verbena absolute**

*(continued of page 1)*

- H411 Toxic to aquatic life with long lasting effects.
- Precautionary statements
  - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P264 Wash thoroughly after handling.
  - P272 Contaminated work clothing should not be allowed out of the workplace.
  - P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/ national/international regulations.

**2.3 Other hazards**

- Results of PBT and vPvB assessment
- PBT:  
Not applicable.
- vPvB:  
Not applicable.
- Determination of endocrine-disrupting properties  
Substance is not listed.

**SECTION 03: Composition/information on ingredients**

**3.1 Substances**

**CAS No.      Description**

8024-12-2      Verbena absolute

- Identification number(s)
- EC number:  
285-515-0

- Dangerous components:

	CAS Number		%
	<b>5392-40-5</b>	<b>Citral</b> EC number: 226-394-6 ⚠ Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Skin Sens. 1B - H317	<b>20,001-50,00</b>
*	<b>5989-27-5</b>	<b>d-limonene</b> EC number: 227-813-5 ⚠ Asp. Tox. 1 - H304; ⚠ Flam. Liq. 3 - H226; ⚠ Skin Irrit. 2 - H315, Skin Sens. 1B - H317; ⚠ Aquatic Acute 1 - H400; Aquatic Chronic 3 - H412	<b>20,001-50,00</b>
	<b>470-82-6</b>	<b>Eucalyptol</b> EC number: 207-431-5 ⚠ Flam. Liq. 3 - H226; ⚠ Skin Sens. 1B - H317	<b>5,001-10,00</b>
*	<b>87-44-5</b>	<b>beta-Caryophyllene</b> EC number: 201-746-1 ⚠ Asp. Tox. 1 - H304; ⚠ Skin Sens. 1B - H317	<b>1,001- 5,00</b>
*	<b>98-55-5</b>	<b>p-menth-1-en-8-ol</b> EC number: 202-680-6 ⚠ Skin Irrit. 2 - H315, Eye Irrit. 2 - H319	<b>1,001- 5,00</b>
*	<b>80-56-8</b>	<b>pin-2(3)-ene</b> EC number: 201-291-9 ⚠ Asp. Tox. 1 - H304; ⚠ Flam. Liq. 3 - H226; ⚠ Acute Tox. 4 - H302, Skin Irrit. 2 - H315, Skin Sens. 1B - H317	<b>0,101-1,00</b>
*	<b>105-87-3</b>	<b>Geranyl acetate</b>	<b>0,101-1,00</b>

*(continued on page 3)*

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :      Verbena absolute**

*(continued of page 2)*

*		EC number: 203-341-5	
*		⚠ Skin Irrit. 2 - H315, Skin Sens. 1B -	
*		H317; Aquatic Chronic 3 - H412	
*	<b>106-24-1</b>	<b>geraniol</b>	<b>0,101-1,00</b>
*		EC number: 203-377-1	
*		⚠ Eye Dam. 1 - H318; ⚠ Skin Irrit. 2	
*		- H315, Skin Sens. 1 - H317	
*	<b>78-70-6</b>	<b>LINALOOL</b>	<b>0,101-1,00</b>
*		EC number: 201-134-4	
*		⚠ Skin Irrit. 2 - H315, Eye Irrit. 2 -	
*		H319, Skin Sens. 1B - H317	
*	<b>127-91-3</b>	<b>beta-Pinene</b>	<b>0,101-1,00</b>
*		EC number: 204-872-5	
*		⚠ Asp. Tox. 1 - H304; ⚠ Flam. Liq. 3	
*		- H226; ⚠ Skin Irrit. 2 - H315, Skin	
*		Sens. 1B - H317	

**SECTION 04: First aid measures**

4.1 Description of first aid measures

- General information:  
Seek immediate medical advice.
- After inhalation:  
Supply fresh air and to be sure call for a doctor.
- After skin contact:  
If skin irritation continues, consult a doctor.  
Immediately wash with water and soap and rinse thoroughly.
- After eye contact:  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:  
Seek immediate medical advice.
- Information for doctor:

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 05: Firefighting measures**

5.1 Extinguishing media

- Suitable extinguishing agents:  
CO2, sand, extinguishing powder. Do not use water.  
Use fire extinguishing methods suitable to surrounding conditions.
- For safety reasons unsuitable extinguishing agents:  
Water with full jet

5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

5.3 Advice for firefighters

- Protective equipment:  
Do not inhale explosion gases or combustion gases.
- Additional information  
Cool endangered receptacles with water spray.

EU

*(continued on page 4)*

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :      Verbena absolute**

*(continued of page 3)*

### SECTION 06: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Keep away from ignition sources.

**6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.

**6.3 Methods and material for containment and cleaning up:**  
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 07: Handling and storage

**7.1 Precautions for safe handling**  
Keep receptacles tightly sealed.  
Keep away from heat and direct sunlight.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Handle with care. Avoid jolting, friction and impact.  
• **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 only in the original receptacle.  
Prevent any seepage into the ground.  
Use only receptacles specifically permitted for this substance/ product.  
• **Information about storage in one common storage facility:**  
Not required.  
• **Further information about storage conditions:**  
Keep container tightly sealed.  
Protect from heat and direct sunlight.  
Store receptacle in a well ventilated area.

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

### SECTION 08: Exposure controls/personal protection

**8.1 Control parameters**  
• **Ingredients with limit values that require monitoring at the workplace:**  
Not required.  
• **Additional information:**  
The lists valid during the making were used as basis.

**8.2 Exposure controls**  
• **Individual protection measures, such as personal protective equipment**  
• **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Do not inhale dust / smoke / mist.  
Avoid contact with the eyes.

*(continued on page 5)*

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT : Verbena absolute**

(continued of page 4)

- Respiratory protection:  
Use suitable respiratory protective device in case of insufficient ventilation.  
Filter P3  
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:  
Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
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  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye/face protection  
Safety glasses
- Body protection:  
Impervious protective clothing  
Boots

**SECTION 09: Physical and chemical properties**

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

**General Information**

<b>Physical state</b>	Fluid
<b>Colour:</b>	light yellow to orange-yellow
<b>Odour:</b>	fruit-like
<b>Odour threshold:</b>	Not determined.
<b>Boiling point or initial boiling point and boiling range</b>	Not determined.
<b>Flammability</b>	Not determined.
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Flash point:</b>	66,0 °C    NFT 60-103 CC
<b>Decomposition temperature:</b>	Not determined.
<b>pH</b>	Not determined.
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	Not determined.
<b>Dynamic:</b>	Not determined.
<b>Solubility</b>	
<b>water:</b>	Not determined.
<b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
<b>Vapour pressure:</b>	Not determined.
<b>Density and/or relative density</b>	
<b>Density:</b>	Not determined.
<b>Relative density</b>	0,8850 0,9050 (D20/20)
<b>Vapour density</b>	Not determined.
<b>9.2 Other information</b>	No further relevant information available.
<b>Appearance:</b>	
<b>Form:</b>	fluid
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Auto-ignition temperature:</b>	Not determined.
<b>Explosive properties:</b>	Not determined.

(continued on page 6)

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :      Verbena absolute**

*(continued of page 5)*

<b>Solvent content:</b>	
<b>Solids content:</b>	0,00 %
<b>Change in condition</b>	
<b>Evaporation rate</b>	Not determined.
<b>Information with regard to physical hazard classes</b>	
<b>Explosives</b>	not applicable
<b>Flammable gases</b>	not applicable
<b>Aerosols</b>	not applicable
<b>Oxidising gases</b>	not applicable
<b>Gases under pressure</b>	not applicable
<b>Flammable liquids</b>	not applicable
<b>Flammable solids</b>	not applicable
<b>Self-reactive substances and mixtures</b>	not applicable
<b>Pyrophoric liquids</b>	not applicable
<b>Pyrophoric solids</b>	not applicable
<b>Self-heating substances and mixtures</b>	not applicable
<b>Substances and mixtures, which emit flammable gases in contact with water</b>	not applicable
<b>Oxidising liquids</b>	not applicable
<b>Oxidising solids</b>	not applicable
<b>Organic peroxides</b>	not applicable
<b>Corrosive to metals</b>	not applicable
<b>Desensitised explosives</b>	not applicable

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No further relevant information available.

### 10.2 Chemical stability

### 10.3 Possibility of hazardous reactions

No dangerous reactions known.

### 10.4 Conditions to avoid

No further relevant information available.

### 10.5 Incompatible materials:

No further relevant information available.

### 10.6 Hazardous decomposition products:

Not determined.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

- Acute toxicity
- LD/LC50 values relevant for classification:

ISO LD/LC

#### **5392-40-5              Citral**

Oral, LD50: 4960 mg/kg (rat)

#### **5989-27-5              (R)-p-mentha-1,8-diene**

Oral, LD50: 4400 mg/kg (rat)

#### **470-82-6              Eucalyptol**

Oral, LD50: 3849 mg/kg (mouse) (Jiao Xu, 2014)

#### **87-44-5              beta-Caryophyllene**

Oral, LD50: > 5000 mg/kg (rat) (Hart and Wong 1971)

\*

\*

*(continued on page 7)*

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :      Verbena absolute**

*(continued of page 6)*

- \* **98-55-5                      p-menth-1-en-8-ol**
- \*      Oral, LD50: 4300 mg/kg (rat)
- \* **105-87-3                      Geranyl acetate**
- \*      Oral, LD50: >4000 mg/kg (rat) (NTP 1987)
- \* **78-70-6                      LINALOOL**
- \*      Oral, LD50: 2790 mg/kg (rat)
- \*      Dermal, LD50: 5610 mg/kg (Rabbit)
- \*      • Primary irritant effect:
- \*      • Skin corrosion/irritation
- \*           Irritant to skin and mucous membranes.
- \*           Causes skin irritation.
- \*      • Serious eye damage/irritation
- \*           Irritating effect.
- \*           Causes serious eye irritation.
- \*      • Respiratory or skin sensitisation
- \*           Sensitization possible through skin contact.
- \*      • Germ cell mutagenicity
- \* **470-82-6                      Eucalyptol**
- \*      OECD 471 AMES: NEGATIVE (in vitro) (Haworth, 1983)
- \* **87-44-5                      beta-Caryophyllene**
- \*      OECD 471 AMES: NEGATIVE (in vitro) (Heck and al., 1989)
- \* **105-87-3                      Geranyl acetate**
- \*      OECD 471 AMES: NEGATIVE (in vitro) (NTP 1987)
- \* **78-70-6                      LINALOOL**
- \*      OECD 471 AMES: NEGATIVE (in vitro) (Letizia and al., 2007)
- \*      • Carcinogenicity
- \* **105-87-3                      Geranyl acetate**
- \*      Micronoyau: NEGATIVE (mouse) (in vivo, Shelby 1993)
- \* **78-70-6                      LINALOOL**
- \*      Micronoyau: NEGATIVE (mouse) (in vivo, Letizia and al., 2007)
- \*      Micronoyau: NEGATIVE (in vitro) (DiSotto and al., 2011)
- \*      • Reproductive toxicity
- \*           Not determined.
- \*      • STOT-single exposure
- \*           Not determined.
- \*      • STOT-repeated exposure
- \*           Not determined.
- \*      • Aspiration hazard
- \*           May be fatal if swallowed and enters airways.
- \*           May be fatal if swallowed and enters airways.
- \*      • Subacute to chronic toxicity:
- \* **87-44-5                      beta-Caryophyllene**
- \*      Oral, NOAEL: 700 mg/kg (rat) (90 days Schmitt 2016)
- \*      • 11.2 Information on other hazards
- \*      • Endocrine disrupting properties
- \*           Substance is not listed.

## SECTION 12: Ecological information

### 12.1 Toxicity

- Aquatic toxicity:

**5989-27-5                      (R)-p-mentha-1,8-diene**  
LD50: 0,71 mg/l (fish) (OECD 203)

- \* **78-70-6                      LINALOOL**  
LD50: 27,8 mg/l (fish) ((OECD 203) RIFM 1991)  
ErC50(0-72h): 156,7 mg/l (algae)  
ErC50(0-48h): 59 mg/l (daphnia) ((OECD 202)

### 12.2 Persistence and degradability

No further relevant information available.

- Behaviour in environmental systems:
- Not determined.

### 12.3 Bioaccumulative potential

No further relevant information available.

*(continued on page 8)*

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :     Verbena absolute**

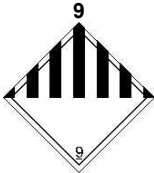

*(continued of page 7)*

- 12.4 Mobility in soil  
No further relevant information available.
- 12.5 Results of PBT and vPvB assessment
- PBT:  
Not applicable.
  - vPvB:  
Not applicable.
- 12.6 Endocrine disrupting properties  
The product does not contain substances with endocrine disrupting properties.
- 12.6 Other adverse effects  
No further relevant information available.
- Ecotoxicological effects:  
Not determined.
  - Remark:  
Toxic for fish
  - Additional ecological information:
  - General notes:  
Toxic for aquatic organisms  
The material is harmful to the environment.

### SECTION 13: Disposal considerations

- 13.1 Waste treatment methods
- Recommendation  
Must be specially treated adhering to official regulations.
  - Uncleaned packaging:
  - Recommendation:  
Disposal must be made according to official regulations.

### SECTION 14: Transport information

- 14.1 UN number or ID number
- |        |        |
|--------|--------|
| • ADR  | UN3082 |
| • IMDG | UN3082 |
| • IATA | UN3082 |
- 14.2 UN proper shipping name
- |          |   |
|----------|---|
| * • ADR  | 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALOYSIA CITRIODORA) |
| * • IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALOYSIA CITRIODORA)      |
| * • IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALOYSIA CITRIODORA)      |
- 14.3 Transport hazard class(es)
- |         |   |
|---------|---|
| • ADR   |   |
| • Class | 9 (M6) Miscellaneous dangerous substances and articles. |
| • Label |   |
- 

- |         |  |
|---------|--|
| • IMDG  |  |
| • Class | 9 Miscellaneous dangerous substances and articles. |

*(continued on page 9)*



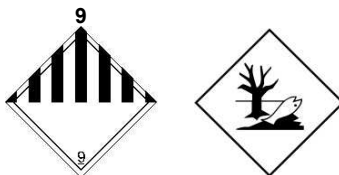
1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT : Verbena absolute**

(continued of page 8)

. **Label**

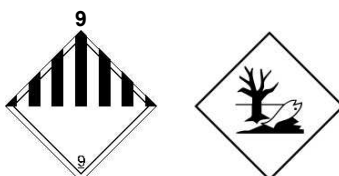


. **IATA**

. **Class**

9 Miscellaneous dangerous substances and articles.

. **Label**



14.4 Packing group

. **ADR** III

. **IMDG** III

. **IATA** III

14.5 Environmental hazards:

. **Marine pollutant:** Yes

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

. **Danger code (Kemler):** 90

. **EMS Number:** F-A,S-F

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

\*

• Transport/Additional information:

. **ADR**

. **Excepted quantities (EQ):** E1

. **Limited quantities (LQ)** 5L

. **Transport category** 3

. **Tunnel restriction code** E

. **IMDG**

. **Limited quantities (LQ)** 5L

. **Excepted quantities (EQ)** E1

• UN "Model Regulation":

\*

UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALOYSIA CITRIODORA), 9, III

\*

## SECTION 15: Regulatory information

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

- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II  
Substance is not listed.
- REGULATION (EU) 2019/1148
- Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))  
Substance is not listed.
- Annex II - REPORTABLE EXPLOSIVES PRECURSORS  
Substance is not listed.
- Regulation (EC) No 273/2004 on drug precursors  
Substance is not listed.
- Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

(continued on page 10)

1465603

Reviewed on: 03.05.2023  
Printing date: 01.08.2023

**PRODUCT :      Verbena absolute**

*(continued of page 9)*

Substance is not listed.

- National regulations:
- Technical instructions (air):
- Class Share in %
  - \* I              0,30
- Waterhazard class:  
Water hazard class 2 (Self-assessment): hazardous for water.

15.2 Chemical safety assessment:  
A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

The information in this safety data sheet is based on the state of our knowledge at the date indicated. The information in this sheet must be regarded as a description of the safety requirements for the product, they are not to be considered a warranty or quality specification and have no contractual value on properties and application areas thereof. The information contained in this safety data sheet relate to the specific material designated and may not be valid with respect to the product associated with another product or process, unless it is specified in the text of this document.

The required information complies with EU regulations in force. It does not exempt the user from knowing and applying all the national regulations in force.

• Relevant phrases

- \* H226              Flammable liquid and vapour.
- \* H302              Harmful if swallowed.
- \* H304              May be fatal if swallowed and enters airways.
- \* H315              Causes skin irritation.
- \* H317              May cause an allergic skin reaction.
- \* H318              Causes serious eye damage.
- \* H319              Causes serious eye irritation.
- \* H400              Very toxic to aquatic life.
- \* H412              Harmful to aquatic life with long lasting effects.

• Training hints

Minimum training in occupational risk prevention is recommended for personnel who will handle this product, in the purpose of facilitating the understanding and interpretation of this form of safety data in the same way as the labeling of the product.

• Date of previous version:

\* 20.12.2022

• Version number of previous version:

\* 1.00

• Abbreviations and acronyms:

IFRA: International Fragrance Association IOFI: International Organization of the Flavor Industry  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
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

• Sources

IFRA/IOFI Labelling Manual, REACH registration dossier, supplier information

- \* Data compared to the previous version altered.