

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

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

#### 1.1 Product identifier

- Trade name:  
BENZOIN SIAM ORGAN RES 55%/ETH
- Article number:  
N0395
- UFI:  
\* ONE0-Q0TK-400Q-ATYV

1.2 Relevant identified uses of the substance or mixture and uses advised against  
Application of the substance / the preparation  
Perfume ingredient  
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



GHS05

Eye Dam. 1 - H318 Causes serious eye damage.



GHS02

Flam. Liq. 3 - H226 Flammable liquid and vapour.



GHS07

Skin Irrit. 2 - H315 Causes skin irritation.  
Skin Sens. 1 - H317 May cause an allergic skin reaction.



GHS08

STOT RE 2 - H373 May cause damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.

#### 2.2 Label elements

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



GHS05



GHS02



GHS07



GHS08

- Signal word  
Danger

- Hazard-determining components of labelling:  
Benzoic acid

(continued on page 2)

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 1)*

- Hazard statements
  - \* H226 Flammable liquid and vapour.
  - \* H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - \* H318 Causes serious eye damage.
  - \* H373 May cause damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.
  - \* EUH208 Contains isoeugenol. May produce an allergic reaction.
- Precautionary statements
  - 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.
  - P302+P352 IF ON SKIN: Wash with plenty of water.
  - P403+P235 Store in a well-ventilated place. Keep cool.
  - 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
    - \* None of the ingredients is listed.

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

- 3.2 Mixtures
  - Description: Mixture
  - Dangerous components:
- | CAS Number |   | %            |
|------------|---|--------------|
| *          | <b>64-17-5</b><br>ethyl alcohol<br>EC number: 200-578-6<br>⚠ Flam. Liq. 2 - H225; ⚠ Eye Irrit. 2 - H319   | 20,001-50,00 |
| *          | <b>65-85-0</b><br>Benzoic acid<br>EC number: 200-618-2<br>⚠ Eye Dam. 1 - H318; ⚠ STOT RE 1 - H372; ⚠ Skin Irrit. 2 - H315   | 5,001-10,00  |
| *          | <b>121-33-5</b><br>vanillin<br>EC number: 204-465-2<br>⚠ Eye Irrit. 2 - H319  | 1,001- 5,00  |
| *          | <b>120-51-4</b><br>Benzyl benzoate<br>EC number: 204-402-9<br>⚠ Acute Tox. 4 - H302; ⚠ Aquatic Acute 1 - H400, Aquatic Chronic 2 - H411   | 0,101-1,00   |
| *          | <b>97-54-1</b><br>isoeugenol<br>EC number: 202-590-7<br>⚠ Acute Tox. 4 - H302, Acute Tox. 4 - H312, Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Skin Sens. 1A - H317; Skin Sens. 1A; H317: C >= 0,01 % | 0,01-0,100   |
- Additional information: For the wording of the listed risk phrases refer to section 16.

EU

*(continued on page 3)*

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 2)*

### SECTION 04: First aid measures

#### 4.1 Description of first aid measures

- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
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:**  
Immediately rinse with water.
- **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:**  
CO<sub>2</sub>, 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.

### 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.

#### 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.

EU

*(continued on page 4)*

1633905

Reviewed on: 19.12.2022  
 Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 3)*

**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.
- 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.
    - \* 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:
    - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - 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.
    - \* Store protective clothing separately.
    - Avoid contact with the skin.
    - Avoid contact with the eyes.
  - 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.
    - Use suitable respiratory protective device in case of insufficient ventilation.
  - 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
  - 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

EU

*(continued on page 5)*

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 4)*

SECTION 09: Physical and chemical properties	
<b>9.1 Information on basic physical and chemical properties</b>	
<b>General Information</b>	
<b>Physical state</b>	Fluid
<b>Colour:</b>	red-brown
<b>Odour:</b>	balsamic
<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>	25,0 °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>	at 20,00 °C 0,0014 mbar
<b>Density and/or relative density</b>	
<b>Density:</b>	Not determined.
<b>Relative density</b>	0,9950 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.
<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>	Flammable liquid and vapour.
<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

*(continued on page 6)*

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 5)*

*	<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**

**64-17-5 ethanol**

Oral, LD50: 7060 mg/kg (rat)

Inhalative, LC50/4h: 20000 mg/l (rat)

\* **65-85-0 Benzoic acid**

Oral, LD50: 2565 mg/kg (rat) (OECD SIDS 2001)

\* Dermal, LD50: >2000 mg/kg (Rabbit) (Opdyke 1973)

\* Inhalative, LC50/4h: >4,178 mg/l (rat) (Bayer AG 1990)

\* **121-33-5 vanillin**

Oral, LD50: 1580 mg/kg (rat) (Inouye, and al., 1988)

\* Oral, LD50: 1000 mg/kg (mouse) (Taylor, and al., 1964)

\* **120-51-4 Benzyl benzoate**

Oral, LD50: 1700 mg/kg (rat)

\* Oral, LD50: 3450 mg/kg (mouse) (Bier, 1979)

\* Dermal, LD50: 4000 mg/kg (Rabbit)

\* **97-54-1 isoeugenol**

Oral, LD50: 1560 mg/kg (rat)

• Primary irritant effect:

- Skin corrosion/irritation

\* **65-85-0 Benzoic acid**

\* Irritation of skin, OECD 404 DRAIZE: NOT CLASSIFIED (guinea Pig) (OCDE SIDS 2001)

\* Irritant to skin and mucous membranes.

\* Causes skin irritation.

- Serious eye damage/irritation

Strong irritant with the danger of severe eye injury.

\* Causes serious eye damage.

• Respiratory or skin sensitisation

\* **120-51-4 Benzyl benzoate**

\* Sensitisation, NESIL: 59000 ug/cm<sup>2</sup> (human being) (Standard IFRA)

\* Sensitization possible through skin contact.

• Germ cell mutagenicity

\* **65-85-0 Benzoic acid**

*(continued on page 7)*

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 6)*

- \* OECD 471 AMES: NEGATIVE (in vitro) (OCDE SIDS 2001)
- \* **121-33-5 vanillin**
- \* OECD 471 AMES: NEGATIVE (in vitro) (Heck and al., 1989)
- \* **120-51-4 Benzyl benzoate**
- \* OECD 471 AMES: NEGATIVE (in vitro) (Schunk and al., 1986)
- Carcinogenicity
- \* **65-85-0 Benzoic acid**
- \* Micronoyau: NEGATIVE (mouse) (Hayashi and al., 1988)
- \* **121-33-5 vanillin**
- \* Micronoyau: NEGATIVE (mouse) (Sanyal and al., 1997)
- Reproductive toxicity
- \* Not determined.
- STOT-single exposure
- \* Not determined.
- STOT-repeated exposure
- \* May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard
- \* Not determined.
- Subacute to chronic toxicity:
- \* **65-85-0 Benzoic acid**
- \* Oral, NOAEL: >750 mg/kg (rat) (4 generation study, Kieckebush and Lang 1960)
- \* **121-33-5 vanillin**
- \* Oral, NOAEL: 1000 mg/kg (rat) (12 months Hagan and al., 1967)
- Additional toxicological information:  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful
- \* Corrosive
- \* Irritant
- \* Carcinogenic if inhaled.
- 11.2 Information on other hazards
- Endocrine disrupting properties
- \* None of the ingredients is listed.

**SECTION 12: Ecological information**

- 12.1 Toxicity
- Aquatic toxicity:
- \* **65-85-0 Benzoic acid**
- \* CE50/48h: >100 mg/l (daphnia) (pH 8,4 ; OECD SIDS 2001)
- \* ErC50(0-72h): >1630 mg/l (algae) (pH 7 ; Bringmann and al., 1977)
- \* 96h-LC50: 47,3 mg/l (fish) (Buzzel and al., 1968)
- 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.
- 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:

*(continued on page 8)*

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 7)*

- Not determined.
- Additional ecological information:
- General notes:  
Do not allow product to reach ground water, water course or sewage system.

### 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** UN1993

**IMDG** UN1993

**IATA** UN1993

14.2 UN proper shipping name

**ADR** 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))

**IMDG** FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))

**IATA** FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))

14.3 Transport hazard class(es)

**ADR**

**Class** 3 (F1) Flammable liquids.

**Label**



**IMDG**

**Class**

3 Flammable liquids.

**Label**



**IATA**

**Class**

3 Flammable liquids.

**Label**



14.4 Packing group

**ADR** III

**IMDG** III

**IATA** III

14.5 Environmental hazards:

*(continued on page 9)*



1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 8)*

Not applicable.

14.6 Special precautions for user

Warning: Flammable liquids.

**Danger code (Kemler):** 30

**EMS Number:** F-E,S-E

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

- Transport/Additional information:  
Not applicable.

**ADR**

**Excepted quantities (EQ):** E1

**Limited quantities (LQ)** 5L

**Transport category** 3

**Tunnel restriction code** D/E

**IMDG**

**Limited quantities (LQ)** 5L

**Excepted quantities (EQ)** E1

- UN "Model Regulation":  
UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL)), 3, 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  
None of the ingredients is listed.
- \* • REGULATION (EU) 2019/1148  
• Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))  
None of the ingredients is listed.
- \* • Annex II - REPORTABLE EXPLOSIVES PRECURSORS  
None of the ingredients is listed.
- \* • Regulation (EC) No 273/2004 on drug precursors  
108-88-3 toluene : 3
- \* • Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors  
108-88-3 toluene : 3
- \* • National regulations:
- \* • Technical instructions (air):
- \* • Class Share in %  
III
- \* • 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.

*(continued on page 10)*

1633905

Reviewed on: 19.12.2022  
Printing date: 19.12.2022

**PRODUCT : BENZOIN SIAM ORGAN RES 55%/ETH**

*(continued of page 9)*

- Relevant phrases
 

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic 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.
  
- Abbreviations and acronyms:
 

IFRA:International Fragrance Association IOFI:International Organization of the Flavor Industry 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) 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) 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 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation DOT: US Department of Transportation  
 IATA: International Air Transport Association IATA: International Air Transport Association  
 ICAO: International Civil Aviation Organisation ICAO: International Civil Aviation Organisation  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society) CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative vPvB: very Persistent and very Bioaccumulative  
 CE50: effective concentration at 50% ErC50:concentration of test substance which results in a 50 percent reduction in either growth rate (ErC50)relative to the control within 72hrs exposure.
  
- Sources
 

IFRA/IOFI Labelling Manual,REACH registration dossier,supplier information
  
- \* Data compared to the previous version altered.