

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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

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

- **1.1 Product identifier**
- **Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**
- **Product number: 1711**
- **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** Flavoring Ingredients
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Advanced Biotech  
10 Taft Road  
Totowa, NJ 07512 USA
- **Further information obtainable from:**  
Product Safety Department  
productsafety@adv-bio.com
- **1.4 Emergency telephone number:**  
Infotrac: 1-800-535-5053 (Domestic) & 1-352-323-3500 (International)  
Email: responders@infotrac.net & During normal business hours: 1-973-339-6242

**SECTION 2: Hazards identification**

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



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**  
2-Ethyl-3,6-dimethylpyrazine  
2-Ethyl-3,5-dimethylpyrazine  
2,3,5,6-Tetramethylpyrazine  
2,3,5-Trimethylpyrazine
- **Hazard statements**  
H302 Harmful if swallowed.  
H319 Causes serious eye irritation.
- **Precautionary statements**  
P280 Wear eye protection / face protection.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

(Contd. on page 2)

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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 1)

P330 Rinse mouth.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
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.

**SECTION 3: Composition/information on ingredients**

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 13360-65-1 EINECS: 236-417-1	2-Ethyl-3,6-dimethylpyrazine ⚠ Acute Tox. 4, H302	≥25-≤100%
CAS: 13925-07-0 EINECS: 237-694-1	2-Ethyl-3,5-dimethylpyrazine ⚠ Acute Tox. 4, H302 ATE: LD50 oral: 500 mg/kg	≥10-≤50%
CAS: 1124-11-4 EINECS: 214-391-2	2,3,5,6-Tetramethylpyrazine ⚠ Acute Tox. 4, H302 ATE: LD50 oral: 800 mg/kg	≥0-≤25%
CAS: 14667-55-1 EINECS: 238-712-0	2,3,5-Trimethylpyrazine ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319 ATE: LD50 oral: 806 mg/kg	≥10-≤25%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: 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.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **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:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 2)

- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information**  
 Cool endangered receptacles with water spray.  
 Collect contaminated fire fighting water separately. It must not enter the sewage system.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**  
 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:**  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose contaminated material as waste according to section 13.
- **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** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
 No special requirements.  
 Please refer to the product specification and/or Certificate of Analysis for product storage requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: 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 a basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as 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.

(Contd. on page 4)

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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 3)

- Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Hand protection**



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 should be based 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 determined by the manufacturer of the protective gloves and has to be observed.

- **Eye/face protection**



Tightly sealed goggles

## SECTION 9: Physical and chemical properties

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

- **General Information**

· <b>Physical state</b>	Fluid
· <b>Colour:</b>	According to product specification
· <b>Odour:</b>	According to product specification
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Boiling point or initial boiling point and boiling range</b>	Undetermined.
· <b>Flammability</b>	Not applicable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	71.2 °C
· <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>	Partly soluble.

(Contd. on page 5)

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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 4)

- **Partition coefficient n-octanol/water (log value)** Not determined.
- **Vapour pressure:** Not determined.
- **Density and/or relative density**
- **Density at 20 °C:** 0.94-1.015 g/cm<sup>3</sup>
- **Relative density** Not determined.
- **Specific Gravity** 0.940-1.015 @ 20 °C
- **Refractive Index**
- **Vapour density** Not determined.

- **9.2 Other information**
- **Appearance:**
- **Form:** Liquid
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Solvent content:**
- **VOC (EC)** 0.00 %
- **Solids content:** 0-11 %
- **Change in condition**
- **Evaporation rate** Not determined.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

**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** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.

(Contd. on page 6)

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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 5)

- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological information**

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

- **LD/LC50 values relevant for classification:**

**ATE (Acute Toxicity Estimates)**

Oral	LD50	360-1,000 mg/kg
------	------	-----------------

**CAS: 13360-65-1 2-Ethyl-3,6-dimethylpyrazine**

Oral	LD50	500 mg/kg (ATE)
------	------	-----------------

**CAS: 13925-07-0 2-Ethyl-3,5-dimethylpyrazine**

Oral	LD50	500 mg/kg (ATE)
------	------	-----------------

- **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.
- **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** Based on available data, the classification criteria are not met.
- **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.

- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

**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.
- **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.

- **12.7 Other adverse effects**

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

GB

(Contd. on page 7)



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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 6)

**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.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

**SECTION 14: Transport information**

· <b>14.1 UN number or ID number</b>	
· <b>ADR, IMDG, IATA</b>	Void
· <b>14.2 UN proper shipping name</b>	
· <b>ADR, IMDG, IATA</b>	Void
· <b>14.3 Transport hazard class(es)</b>	
· <b>ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>14.4 Packing group</b>	
· <b>ADR, IMDG, IATA</b>	Void
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Not applicable.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	Void

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**

· <b>Regulated explosives precursors</b>	None of the ingredients is listed.
· <b>Regulated poisons</b>	None of the ingredients is listed.
· <b>Reportable explosives precursors</b>	None of the ingredients is listed.
· <b>Reportable poisons</b>	None of the ingredients is listed.

- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the GB CLP regulation.

(Contd. on page 8)

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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 7)

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**

2-Ethyl-3,6-dimethylpyrazine  
 2-Ethyl-3,5-dimethylpyrazine  
 2,3,5,6-Tetramethylpyrazine  
 2,3,5-Trimethylpyrazine

· **Hazard statements**

H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.

· **Precautionary statements**

P280 Wear eye protection / face protection.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P330 Rinse mouth.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **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**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **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.

(Contd. on page 9)



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

Printing date 16.01.2024

Version number 1

Revision: 16.01.2024

**Trade name: 2-Ethyl-3(5/6)-Dimethylpyrazine Natural**

(Contd. of page 8)

· **Relevant phrases**

H226 Flammable liquid and vapour.  
 H302 Harmful if swallowed.  
 H319 Causes serious eye irritation.

· **Department issuing SDS:** Product safety department

· **Contact:**

Product Safety Department  
 productsafety@adv-bio.com

· **Date of previous version:** 29.09.2022

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 ATE: Acute toxicity estimate values  
 Flam. Liq. 3: Flammable liquids – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

GB