

Safety Data Sheet

acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

1 Identification

- **Product identifier**
- **Trade name: 2,3,5-Trimethylpyrazine Natural**
- **Product number: 1347**
- **Application of the substance / the mixture** Flavoring Ingredients
- **Details of the supplier of the safety data sheet**
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- **Manufacturer/Supplier:**
 Advanced Biotech
 10 Taft Road
 Totowa, NJ 07512 USA
- **Information department:**
 Product Safety Department
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- **Emergency telephone number:**
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 Email: responders@infotrac.net & During normal business hours: 1-973-339-6242

2 Hazard(s) identification

- **Classification of the substance or mixture**



Acute Toxicity - Oral 4 H302 Harmful if swallowed.

Eye Irritation 2A H319 Causes serious eye irritation.

Flammable Liquids 4 H227 Combustible liquid.

- **GHS label elements**

Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
 2,3,5-Trimethylpyrazine
 2-Ethyl-5-Methyl Pyrazine
 2,6-Dimethylpyrazine

(Continued on page 2)

Safety Data Sheet
acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 1)

2,5-Dimethylpyrazine

· **Hazard statements**

- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.

· **Precautionary statements**

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 2
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = 2
FIRE 2 Fire = 2
REACTIVITY 0 Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

CAS: 14667-55-1 EINECS: 238-712-0	2,3,5-Trimethylpyrazine ⚠ Flammable Liquids 3, H226; ⚠ Acute Toxicity - Oral 4, H302; Eye Irritation 2A, H319	≥50-≤100%
CAS: 13360-64-0 EINECS: 236-416-6	2-Ethyl-5-Methyl Pyrazine ⚠ Flammable Liquids 3, H226; ⚠ Acute Toxicity - Dermal 3, H311; ⚠ Acute Toxicity - Oral 4, H302	≥0-≤10%
CAS: 13925-03-6 EINECS: 237-692-0	2-Ethyl-6-Methyl-Pyrazine ⚠ Flammable Liquids 3, H226	≥0-≤10%
CAS: 108-50-9 EINECS: 203-589-4	2,6-Dimethylpyrazine ⚠ Flammable Liquids 3, H226; ⚠ Acute Toxicity - Oral 4, H302	≥0-≤2.5%
CAS: 123-32-0 EINECS: 204-618-3	2,5-Dimethylpyrazine ⚠ Acute Toxicity - Oral 4, H302; Flammable Liquids 4, H227	≥0-≤2.5%

(Continued on page 3)

Safety Data Sheet

acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 2)

CAS: 13360-65-1	2-Ethyl-3,6-dimethylpyrazine	≥0-≤2.5%
EINECS: 236-417-1	⚠ Acute Toxicity - Oral 4, H302; Flammable Liquids 4, H227	
CAS: 13925-07-0	2-Ethyl-3,5-dimethylpyrazine	≥0-≤2.5%
EINECS: 237-694-1	⚠ Acute Toxicity - Oral 4, H302; Flammable Liquids 4, H227	

4 First-aid measures

- **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:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **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.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **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.
Ensure adequate ventilation.
- **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.

(Continued on page 4)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 3)

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

None of the ingredients is listed.

· **PAC-2:**

None of the ingredients is listed.

· **PAC-3:**

None of the ingredients is listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
 Keep ignition sources away - Do not smoke.
- **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 receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components 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 that were valid during the creation were used as a basis.
- **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.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

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

(Continued on page 5)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 4)

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 protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:

Liquid

Color:

According to product specification

· **Odor:**

According to product specification

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

· **Flash point:**

62.6 °C (144.7 °F)

· **Flammability (solid, gaseous):**

Not applicable.

· **Decomposition temperature:**

Not determined.

· **Ignition temperature:**

Product is not selfigniting.

· **Danger of explosion:**

Not determined.

· **Explosion limits:**

Lower:

Not determined.

Upper:

Not determined.

· **Vapor pressure:**

Not determined.

· **Density at 20 °C (68 °F):**

0.965-0.985 g/cm³ (8.05293-8.21983 lbs/gal)

· **Specific Gravity**

0.965 – 0.985 @ 20 °C (33.7 – 33.8 @ 68 °F)

· **Relative density**

Not determined.

· **Vapor density**

Not determined.

· **Evaporation rate**

Not determined.

(Continued on page 6)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 5)

· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	0.5-2 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	786-962 mg/kg
Dermal	LD50	30,000-60,000 mg/kg (rat)

CAS: 14667-55-1 2,3,5-Trimethylpyrazine

Oral	LD50	806 mg/kg (ATE) 806 mg/kg (rat)
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CAS: 13360-64-0 2-Ethyl-5-Methyl Pyrazine

Oral	LD50	900 mg/kg (ATE) 900 mg/kg (rat)
Dermal	LD50	900 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

(Continued on page 7)

Safety Data Sheet
acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 6)

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, IMDG, IATA**

Not Regulated

(Continued on page 8)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 7)

· UN proper shipping name · DOT, IMDG, IATA	Not Regulated
· Transport hazard class(es) · DOT, ADN, IMDG, IATA · Class	Not Regulated
· Packing group · DOT, IMDG, IATA	Not Regulated
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Not Regulated

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

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CAS: 13360-64-0	2-Ethyl-5-Methyl Pyrazine	ACTIVE
CAS: 108-50-9	2,6-Dimethylpyrazine	ACTIVE
CAS: 123-32-0	2,5-Dimethylpyrazine	ACTIVE
CAS: 13360-65-1	2-Ethyl-3,6-dimethylpyrazine	ACTIVE
CAS: 13925-07-0	2-Ethyl-3,5-dimethylpyrazine	ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

(Continued on page 9)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

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Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 8)

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible.
 The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

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

- 2,3,5-Trimethylpyrazine
- 2-Ethyl-5-Methyl Pyrazine
- 2,6-Dimethylpyrazine
- 2,5-Dimethylpyrazine

· **Hazard statements**

- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.

· **Precautionary statements**

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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**

- H226 Flammable liquid and vapor.
- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H319 Causes serious eye irritation.

(Continued on page 10)

Safety Data Sheet
acc. to OSHA HCS (29 CFR § 1910.1200)

Printing date 01/16/2024

Reviewed on 01/16/2024

Trade name: 2,3,5-Trimethylpyrazine Natural

(Continuation of page 9)

- **Department issuing SDS:** Product Safety Department
- **Contact:**
Product Safety Department
productsafety@adv-bio.com
- **Date of preparation / last revision** 01/16/2024
- **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
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 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)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 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
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flammable Liquids 3: Flammable liquids – Category 3
 Flammable Liquids 4: Flammable liquids – Category 4
 Acute Toxicity - Oral 4: Acute toxicity – Category 4
 Acute Toxicity - Dermal 3: Acute toxicity – Category 3
 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

US