

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1. Product identifier:**
TERRA-3000®
- 1.2. Relevant identified uses of the mixture and uses advised against:**
Natural and environmentally friendly product for ground stabilization and solidification.
For consumer and professional use.
- 1.3. Details of the supplier of the safety data sheet:**

Information about the manufacturer/supplier:
TERRA-SYSTEM Bdstb. BetriebsgesmbH.
8261 Sinabelkirchen - Untergroßau 178
Tel.: +43 31185110
- 1.3.1. Responsible person: Richard Pachler
E-mail: terra.system@aon.at
- 1.4. Emergency telephone number:** +43 1 406 43 43

SECTION 2: HAZARDS IDENTIFICATION

- 2.1. Classification of the mixture:**

Classification according to Regulation (EC) No 1272/2008 (CLP):

Not considered as hazardous mixture.

Hazard statements: No hazard statements.
- 2.2. Label elements:**

Hazard statements: No hazard statements.

EUH 210 – Safety data sheet available on request.

Precautionary statements:
P102 – Keep out of reach of children.
P262 – Do not get in eyes, on skin, or on clothing.
- 2.3. Other hazards:**
May cause skin irritation.
May cause eye irritation.
May cause respiratory tract irritation.
Results of PBT and vPvB assessment: No data available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances:**
Not applicable.

3.2. **Mixtures:**

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
1,3-Propane-diamine, N-9-octadecenyl*	7173-62-8	230-528-9	-	< 10	-	-	-
Acetic acid** Index number: 607-002-00-6	64-19-7	200-580-7	-	< 5	GHS02 GHS05 Danger	Flam. Liq. 3 Skin Corr. 1A	H226 H314
Ethanol Index number: 603-002-00-5	64-17-5	200-578-6	-	< 5	GHS02 Danger	Flam. Liq. 2	H225

*: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No 1272/2008.

** : Substance having occupational exposure limit value.

Specific concentration limits:

Acetic acid (CAS: 64-19-7):

Skin Corr. 1A; H314: $C \geq 90 \%$

Skin Corr. 1B; H314: $25 \% \leq C < 90 \%$

Skin Irrit. 2; H315: $10 \% \leq C < 25 \%$

Eye Irrit. 2; H319: $10 \% \leq C < 25 \%$

For the full text of hazard statements, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

General information: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

INGESTION:

Measures:

- Do not induce vomiting.
- Never give anything by mouth if victim is unconscious, or is convulsing.
- Obtain medical help.

INHALATION:

Measures:

- In case of complaints, take the victim into fresh air.
- If symptoms persist, obtain medical help.

SKIN CONTACT:

Measures:

- Wash the skin surface with plenty of water and soap.
- If irritation persists, obtain medical help.

EYE CONTACT:

Measures:

- In case of contact with eyes flush with water holding eyelids apart and moving the eyeballs.
- Remove contact lenses, if present. Continue rinsing.
- If irritation persists, obtain medical help.

4.2. Most important symptoms and effects, both acute and delayed:

Eyes: May cause irritation.

Skin: May cause irritation.

Inhalation: May cause respiratory irritation.

Ingestion: May cause stomach distress, nausea or vomiting.

Target organs: Eyes. Skin. Respiratory system.

Chronic effects: Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms: Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

4.3. Indication of any immediate medical attention and special treatment needed:

Symptoms may be delayed. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

5.1.1. Suitable extinguishing media:

Dry chemical, carbon dioxide.

5.1.2. Unsuitable extinguishing media:

No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture:

In case of fire, smoke and other combustion products (oxides of carbon, oxides of nitrogen) may be formed, the inhalation of such combustion products can have serious adverse effects on health.

5.3. Advice for firefighters:

Wear full protective clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

6.1.1. For non-emergency personnel:

Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2. For emergency responders:

Keep unnecessary personnel away.

Keep people away from and upwind of spill/leak.

Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

6.2. Environmental precautions:

Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. Methods and material for containment and cleaning up:

Stop leak if you can do so without risk.

Prevent entry into waterways, sewers, basements or confined areas.

Before attempting clean up, refer to hazard data given above.

Collect the spilled product with non-reactive absorbent, then place into a suitable, closed, properly labelled chemical waste container for removal/disposal.

Never return spills to original containers for re-use.

6.4. Reference to other sections:

For further and detailed information see Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Observe conventional hygiene precautions.

Use good industrial hygiene practices in handling this material.

Avoid contact with eyes, skin and clothing.

Keep out of reach of children.

Use only with adequate ventilation.

When using do not eat or drink.

Wash thoroughly after handling.

Keep container tightly closed.

Avoid breathing vapours or mists of this product.

Technical measures:

Ensure adequate ventilation.

Precautions against fire and explosion:

General measures of preventive fire protection.

7.2. **Conditions for safe storage, including any incompatibilities:**

Technical measures and storage condition:

Keep away from heat and flame. Store in a closed container away from incompatible materials.

Keep out of reach of children.

Keep container tightly closed.

Do not store at temperatures above 120 °F (49 °C).

Incompatible materials: See Section 10.5

Packaging material: No special prescriptions.

7.3. **Specific end use(s):**

No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters:**

Occupational exposure limit values (Commission Directive (EC) No 2000/39 of 8 June 2000):

Acetic acid (CAS: 64-19-7):

8 hours: 25 mg/m³; 10 ppm

Short-term: 50 mg/m³; 20 ppm

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	no data	no notes
Marine water	no data	no notes
Freshwater sediment	no data	no notes
Marine water sediment	no data	no notes
Sewage Treatment Plant (STP)	no data	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	no data	no notes

8.2. **Exposure controls:**

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. **Appropriate engineering controls:**

In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin. Ensure adequate ventilation.

8.2.2. **Individual protection measures, such as personal protective equipment:**

Wash hands before breaks and immediately after handling the product.

Handle in accordance with good industrial hygiene and safety practices.

When using do not eat or drink.

The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** Use appropriate protective glasses with side shields (EN 166).
 2. **Skin protection:**
 - a. **Hand protection:** Use appropriate protective gloves (EN 374).
 Material: Rubber. Confirm with a reputable supplier first.
 - b. **Other:** As required by employer code.
 3. **Respiratory protection:** Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
 4. **Thermal hazards:** No thermal hazards known.
- 8.2.3. **Environmental exposure controls:**
 No specific prescription.

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Parameter	Value / Test method / Remarks
1. Appearance:	milky white to yellow brown liquid
2. Odour:	ethanol
3. Odour threshold:	no data*
4. pH:	6-7
5. Melting point/freezing point:	no data*
6. Initial boiling point and boiling range:	no data*
7. Flash point:	> 80 °C (Setaflash ASTM D 3828) > 94 °C (PM) > 65 °C (DIN EN ISO 51755)
8. Evaporation rate:	no data*
9. Flammability (solid, gas):	no data*
10. Upper/lower flammability or explosive limits:	no data*
11. Vapour pressure:	no data*
12. Vapour density:	no data*
13. Relative density:	no data*
14. Solubility(ies):	soluble in water
15. Partition coefficient: n-octanol/water:	no data*
16. Auto-ignition temperature:	no data*
17. Decomposition temperature:	no data*
18. Viscosity:	viscous
19. Explosive properties:	no data*
20. Oxidizing properties:	no data*

9.2. Other information:

No data available.

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

This product may react with strong oxidizing agents.

10.2. Chemical stability:

Stable at normal temperature and under general work conditions.

10.3. Possibility of hazardous reactions:

Hazardous polymerization does not occur.

10.4. Conditions to avoid:

Do not mix with other chemicals.

10.5. Incompatible materials:

Oxidizers.

10.6. Hazardous decomposition products:

May include but not limited to: Oxides of carbon. Oxides of nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

Acute toxicity: Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

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.

11.1.1. **Summaries of the information derived from the test conducted:**

No data available.

11.1.2. **Relevant toxicological properties:**

Acute toxicity:

Acetic acid (CAS: 64-19-7):

LD₅₀ (dermal, guinea pig): 3300 mg/kg

LD₅₀ (dermal, rabbit): 1112 mg/kg

LD₅₀ (dermal, rabbit): 1060 mg/kg

LC₅₀ (inhalation, guinea pig): 5000 ppm, 1 h

LC₅₀ (inhalation, mouse): 5620 ppm, 1 h

LC₅₀ (inhalation, mouse): 2810 ppm, 4 h

LC₅₀ (inhalation, mouse): 6.9 mg/l/4 h

LC₅₀ (inhalation, rat): 11.4 mg/l/4 h

LD₅₀ (oral, mouse): 4960 mg/kg

LD₅₀ (oral, rabbit): 1200 mg/kg

LD₅₀ (oral, rat): 3310 mg/kg

1,3-Propanediamine, N-9-octa-decanyl (CAS: 7173-62-8):

LD₅₀ (oral): > 5000 mg/kg

Carcinogenicity:

ACGIH:

Ethanol (CAS: 64-17-5): A₄ - Not classifiable as a human carcinogen.

11.1.3. **Information on likely routes of exposure:**

Ingestion, inhalation, skin contact, eye contact.

11.1.4. **Symptoms related to the physical, chemical and toxicological characteristics:**

Eyes: May cause irritation.

Skin: May cause irritation.

Inhalation: May cause respiratory irritation.

Ingestion: May cause stomach distress, nausea or vomiting.

Target organs: Eyes. Skin. Respiratory system.

Chronic effects: Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms: Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

11.1.5. **Delayed and immediate effects as well as chronic effects from short and long-term exposure:**

No data available.

11.1.6. **Interactive effects:**

No data available.

11.1.7. **Absence of specific data:**

No information.

11.1.8. **Other information:**

No data available.

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. Toxicity:**
The mixture is not classified as hazardous for the environment.
Information about the components:
Acetic acid (CAS: 64-19-7):
EC₅₀ (crustacean, daphnia): 47 mg/l, 48 hours
LC₅₀ (fish, bluegill (*Lepomis macrochirus*)): 75 mg/l, 96 hours
- 12.2. Persistence and degradability:**
No data available.
- 12.3. Bioaccumulation potential:**
Partition coefficient:
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl): 3.8
Acetic acid (CAS: 64-19-7): -0.17
Ethanol (CAS: 64-17-5): 0.05
- 12.4. Mobility in soil:**
No data available.
- 12.5. Results of PBT and vPvB assessment:**
No data available.
- 12.6. Other adverse effects:**
Water hazard class (WGK, German regulation, self-classification): 1 – slightly hazardous for water.

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1. Waste treatment methods:**
Disposal according to the local regulations.
- 13.1.1. Information regarding the disposal of the product:**
Dispose according to the relevant regulations.
List of Waste Code:
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.
- 13.1.2. Information regarding the disposal of the packaging:**
Dispose according to the relevant regulations.
- 13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.
- 13.1.4. Sewage disposal:**
No data available.
- 13.1.5. Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

Not subject to the conventions of carriage of dangerous goods.

- 14.1. UN Number:**
No UN Number.
- 14.2. UN proper shipping name:**
No proper shipping name.
- 14.3. Transport hazard class(es):**
No transport hazard classes.
- 14.4. Packing group:**
No packing group.
- 14.5. Environmental hazards:**
No relevant information available.
- 14.6. Special precautions for user:**
No relevant information available.
- 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code:**
Not applicable.

SECTION 15: REGULATORY INFORMATION

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

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2. Chemical safety assessment: No information.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:

The safety data sheet has been revised according to Regulation (EU) 2015/830 (section 1-16).

This Safety Data Sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:

Previous version of the safety data sheet (21. 03. 2017, version 2).

Methods used for the classification according to Regulation (EC) No 1272/2008:

Based on the calculation method carried out on the basis of the known hazards of the components, not considered as a hazardous mixture.

Relevant hazard statements (code and full text) of Sections 2 and 3:

H225 – Highly flammable liquid and vapour.

H226 – Flammable liquid and vapour.

H314 – Causes severe skin burns and eye damage.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

EUH 210 – Safety data sheet available on request.

Training advice: No data available.

Full text of the abbreviations in the safety data sheet:

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road.

ATE: Acute Toxicity Estimate.

AOX: Adsorbable organic halides.

BCF: Bioconcentration factor.

BOD: Biological Oxygen Demand.

CAS number: Chemical Abstract Service number.

CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

CMR effects: Carcinogenic, mutagenic, reprotoxic effects.

COD: Chemical Oxygen Demand.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived-No-Effect-Level.

ECHA: European Chemical Agency.

EC: European Community.

EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).

EEC: European Economic Community.

EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).

EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC50: Lethal concentration resulting in 50 % mortality.
LD50: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.
SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC: Volatile Organic Compound.
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.

The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.

The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.

Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.

It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:
MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding the explanation of
the safety data sheet:
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www.msds-europe.com

