

Safety Data Sheet

Product: SDNA-2000 & SDNA-3000

SDS Revision Date: 10/14/2021 v2.0

1. Identification

1.1. Product identifier

Product Identity 2019263 & 2020028
Alternate Names SDNA-2000 & SDNA-3000

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use DNA/RNA preservation solution.

1.3. Details of the supplier of the safety data sheet

Company Name Spectrum Solutions
12248 S Lone Peak PKWY Suite 106,
Draper, UT 84020

Emergency

CHEMTREC (USA) (800) 424-9300
24 hour Emergency Telephone No. +1 650-209-8338
Customer Service: Spectrum Solutions +1 650-209-8338

2. Hazard(s) identification

2.1. Classification of the substance or mixture

| | |
|--------------------|--|
| Flam. Liq. 3;H226 | Flammable liquid and vapor. |
| Acute Tox. 4;H302 | Harmful if swallowed. |
| Acute Tox. 5;H313 | May be harmful in contact with skin. (Note: this GHS classification was not adopted by US OSHA). |
| Skin Irrit. 3;H316 | Causes mild skin irritation. (Note: this GHS classification was not adopted by US OSHA). |

2.2. Label elements



Warning

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H313 May be harmful in contact with skin.
H316 Causes mild skin irritation.

[Prevention]:

P210 Keep away from heat, sparks, open flames, and other ignition sources - No smoking.

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- P233 Keep container tightly closed.
- P240 Ground, bond container and receiving equipment.
- P241 Use explosion-proof electrical, ventilating, light, equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves, eye protection, face protection.

[Response]:

- P301+312 IF SWALLOWED: Call a POISON CENTER, doctor or physician if you feel unwell.
- P303+361+353 IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.
- P312 Call a POISON CENTER, doctor or physician if you feel unwell.
- P330 IF SWALLOWED: Rinse mouth.
- P332+313 IF SKIN IRRITATION OCCURS: Get medical advice or attention.
- P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

- P403+235 Store in a well ventilated place. Keep cool.

[Disposal]:

- P501 Dispose of contents or container in accordance with local and national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

| Ingredient/Chemical Designations | Weight % | GHS Classification | Notes |
|--|----------|---|-------|
| Thiocyanic acid, compound with guanidine (1:1) CAS Number: 0000593-84-0 | 20 - 50 | Acute Tox. 4;H302 Acute Tox. 4;H312 Acute Tox. 4;H332 Aquatic Chronic 3;H412 | ---- |
| Ethanol CAS Number: 0000064-17-5 | 10 - 20 | Flam. Liq. 2;H225 | ---- |
| Tris (hydroxymethyl) aminomethane CAS Number: 0000077-86-1 | 1 - 5 | Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335 | ---- |

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

*PBT/vPvB - PBT-substance or vPvB-substance.

The full texts of the phrases are shown in Section 16.

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Section 4. First aid measures

4.1. Description of first aid measures

| | |
|-------------------|--|
| General | In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. |
| Inhalation | Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth. |
| Eyes | Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention. |
| Skin | Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. |
| Ingestion | If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting. |

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

| | |
|------------------|---|
| Overview | Treat symptomatically. Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. Check section 2.2 (GHS Label Elements) for further details. |
| Skin | May be harmful in contact with skin. Causes mild skin irritation. |
| Ingestion | Harmful if swallowed. |

Section 5. Fire-fighting measures

5.1. Extinguishing media

Use extinguishing agents appropriate for surrounding fire: Regular dry chemical, carbon dioxide (CO₂), regular foam

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Decomposition products may include carbon dioxide, carbon monoxide and nitrogen oxides.

Keep away from heat, sparks, open flames, and other ignition sources - No smoking.

Keep container tightly closed.

Ground, bond container and receiving equipment.

Use explosion-proof electrical, ventilating, light, equipment.

Use only non-sparking tools.

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Take precautionary measures against static discharge.

5.3. Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Move containers away from fire area, if it can be done safely. Use water spray to cool fire-exposed containers. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance.

ERG Guide No. 127

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Avoid contact with cleaning agents containing sodium hypochlorite or other oxidizers. Contact with these can cause the release of cyanide gas.

Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows: Contain and collect spillage with non-combustible, absorbent material (e.g., sand, earth, vermiculite or diatomaceous earth) and place in container for disposal according to local regulations (see Section XIII). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. See Section I for emergency contact information and Section XIII for waste disposal.

Section 7. Handling and storage

7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Put on appropriate personal protective equipment (see Section VIII). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator, when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Use explosion-proof electrical equipment (ventilating, lighting and material handling). Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate

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static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Keep away from heat, sparks and flame.

Check section 2.2 (GHS Label Elements) for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store at room temperature. Store away from direct sunlight in a cool and well-ventilated place. Keep in properly labeled containers.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis. Slightly reactive or incompatible with metals.

Check section 2.2 (GHS Label Elements) for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

Section 8. Exposure controls / personal protection

8.1. Control parameters

| CAS No. | Ingredient | Exposure | |
|--------------|--|----------|---------------------------|
| | | Source | Value |
| 0000064-17-5 | Ethanol | OSHA | TWA 1000 ppm (1900 mg/m3) |
| | | ACGIH | No Established Limit |
| | | NIOSH | TWA 1000 ppm (1900 mg/m3) |
| 0000077-86-1 | Tris (hydroxymethyl) aminomethane | OSHA | No Established Limit |
| | | ACGIH | No Established Limit |
| | | NIOSH | No Established Limit |
| 0000593-84-0 | Thiocyanic acid, compound with guanidine (1:1) | OSHA | No Established Limit |
| | | ACGIH | No Established Limit |
| | | NIOSH | No Established Limit |

8.2. Exposure controls

Respiratory

If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.

Eyes

Protective safety glasses recommended

Skin

Protective gloves recommended.

Engineering Controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

Check section 2.2 (GHS Label Elements) for further details.

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Section 9. Physical and chemical properties

| | |
|--|--|
| Appearance | Translucent blue low viscosity Liquid |
| Odor | Alcohol Odor |
| Odor threshold | Not determined |
| pH | 7.9 – 8.3 |
| Melting point / freezing point | Not Measured |
| Initial boiling point and boiling range | Not Measured |
| Flash Point | 35 °C (95 °F) |
| Evaporation rate (Ether = 1) | Not Measured |
| Flammability (solid, gas) | Not Applicable |
| Upper/lower flammability or explosive limits | Lower Explosive Limit: Not Measured Upper Explosive Limit: Not Measured |
| Vapor pressure (Pa) | Not Measured |
| Vapor Density | Not Measured |
| Relative Density | 1.06 – 1.10 |
| Solubility in Water | Not Measured |
| Partition coefficient n-octanol/water (Log Kow) | Not Measured |
| Auto-ignition temperature | Not Measured |
| Decomposition temperature | Not Measured |
| Viscosity (cSt) | Not Measured |

9.2. Other information

No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Avoid all possible sources of ignition (spark or flame).

10.5. Incompatible materials

Reactive or incompatible with the following materials: **sodium hypochlorite and other** oxidizing materials, acids and alkalis. Slightly reactive or incompatible with metals.

10.6. Hazardous decomposition products

Decomposition products may include carbon dioxide, carbon monoxide and nitrogen oxides.

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Section 11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

| Ingredient | Oral LD50, mg/kg | Skin LD50, mg/kg | Inhalation Vapor LC50, mg/L/4hr | Inhalation Dust/Mist LC50, mg/L/4hr | Inhalation Gas LC50, ppm |
|---|-------------------------------|----------------------------------|---------------------------------|-------------------------------------|--------------------------|
| Thiocyanic acid, compound with guanidine (1:1) - (593-84-0) | 539.00, Rat - Category: 4 | No data available | No data available | No data available | No data available |
| Ethanol - (64-17-5) | 10,470.00, Rat - Category: NA | 17,100.00, Rabbit - Category: NA | 124.70, Rat - Category: NA | No data available | No data available |
| Tris (hydroxymethyl) aminomethane - (77-86-1) | No data available | No data available | No data available | No data available | No data available |

Carcinogen Data

| CAS No. | Ingredient | Source | Value |
|--------------|--|--------|---|
| 0000064-17-5 | Ethanol | OSHA | Regulated Carcinogen: No |
| | | NTP | Known: No; Suspected: No |
| | | IARC | Group 1: Yes; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; |
| | | ACGIH | A3 |
| 0000077-86-1 | Tris (hydroxymethyl) aminomethane | OSHA | Regulated Carcinogen: No |
| | | NTP | Known: No; Suspected: No |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; |
| | | ACGIH | No Established Limit |
| 0000593-84-0 | Thiocyanic acid, compound with guanidine (1:1) | OSHA | Regulated Carcinogen: No |
| | | NTP | Known: No; Suspected: No |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; |
| | | ACGIH | No Established Limit |

| Classification | Category | Hazard Description |
|-------------------------------|----------|--------------------------------------|
| Acute toxicity (oral) | 4 | Harmful if swallowed. |
| Acute toxicity (dermal) | 5 | May be harmful in contact with skin. |
| Acute toxicity (inhalation) | --- | Not Applicable |
| Skin corrosion/irritation | 3 | Causes mild skin irritation. |
| Serious eye damage/irritation | --- | Not Applicable |

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| | | |
|---------------------------|-----|----------------|
| Respiratory sensitization | --- | Not Applicable |
| Skin sensitization | --- | Not Applicable |
| Germ cell mutagenicity | --- | Not Applicable |
| Carcinogenicity | --- | Not Applicable |
| Reproductive toxicity | --- | Not Applicable |
| STOT-single exposure | --- | Not Applicable |
| STOT-repeated exposure | --- | Not Applicable |
| Aspiration hazard | --- | Not Applicable |

Section 12. Ecological information

12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

| Ingredient | 96 hr LC50 fish, mg/l | 48 hr EC50 crustacea, mg/l | ErC50 algae, mg/l |
|---|--------------------------------|----------------------------|------------------------------|
| Thiocyanic acid, compound with guanidine (1:1) - (593-84-0) | Not Available | Not Available | Not Available |
| Ethanol - (64-17-5) | 15,400.00, Lepomis macrochirus | > 10,000, Daphnia magna | 17.921 (96 hr), Ulva pertusa |
| Tris (hydroxymethyl) aminomethane - (77-86-1) | Not Available | Not Available | Not Available |

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

Section 13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

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Section 14. Transport information

| | DOT (Domestic Surface Transportation) | IMO / IMDG (Ocean Transportation) | ICAO/IATA |
|---|---------------------------------------|--------------------------------------|-------------------|
| 14.1. UN number | UN1170 | UN1170 | UN1170 |
| 14.2. UN proper shipping name | UN1170, Ethanol solutions, 3, III | Ethanol solutions | Ethanol solutions |
| 14.3. Transport hazard class(es) | DOT Hazard Class: 3 | IMDG: 3 Sub Class: Not Applicable | Air Class: 3 |
| 14.4. Packing group | III | III | III |
| 14.5. Environmental hazards | | | |
| IMDG | Marine Pollutant: No; | | |
| 14.6. Special precautions for user | None. | | |

14.7. Exceptions

Due to the small percentage of alcohol by volume our SDNA 2000 device meets all requirements for the De minimis exception (49 CFR Subsection 173.4b(a)) and aqueous exception (49 CFR Subsection 173.150(e)) for domestic transportation. For international air transport we meet the IATA Special Provision A58 requirements (aqueous solution exception).

Section 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA) All components of this material are either listed or exempt from listing on the TSCA Inventory.

Note: Ethanol (Ethyl alcohol) has been placed on the California Proposition 65 Cancer and Developmental Lists when in alcoholic beverages.

EPCRA 302 Extremely Hazardous:

Hydrochloric acid

EPCRA 313 Toxic Chemicals:

Ethanol

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

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Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 Label Warning:

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

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The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

Disclaimer: The information presented herein is supplied as a guide to those who handle or use this product. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

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