

SAFETY DATA SHEET

#238 N&A True Dairy Flavor

Section 1. Identification

GHS product identifier : #238 N&A True Dairy Flavor
Product code : 238 N&A
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Flavoring agent.
Area of application : Industrial applications.

Supplier's details : DairyChem Laboratories, Inc.
9120 Technology Drive
Fishers, IN 46038
United States
www.dairychem.com
Telephone: 317-849-8400

e-mail address of person responsible for this SDS : phampton@dairychem.com

Emergency telephone number (with hours of operation) : **CHEMTREC**: 1-800-424-9300
1-703-527-3887 (International)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : H227 FLAMMABLE LIQUIDS - Category 4
H314 SKIN CORROSION - Category 1C
H318 SERIOUS EYE DAMAGE - Category 1
H317 SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H227 - Combustible liquid.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.

Precautionary statements

Section 2. Hazards identification

Prevention	<ul style="list-style-type: none"> : P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from flames and hot surfaces. No smoking. P261 - Avoid breathing vapor. P264 - Wash thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace.
Response	<ul style="list-style-type: none"> : P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P363 - Wash contaminated clothing before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	<ul style="list-style-type: none"> : P405 - Store locked up. P403 + P235 - Store in a well-ventilated place. Keep cool.
Disposal	<ul style="list-style-type: none"> : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	<ul style="list-style-type: none"> : Keep container tightly closed. Do not breathe vapor or spray. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling.
Hazards not otherwise classified	<ul style="list-style-type: none"> : Causes severe respiratory tract burns. Causes severe digestive tract burns.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

Ingredient name	Other names	%	CAS number
propane-1,2-diol	Propylene Glycol	≥10 - ≤25	57-55-6
l-(+)-lactic acid	-	≥10 - ≤25	79-33-4
propionic acid	-	≥10 - ≤15	79-09-4
acetic acid	Acetic acid	≤8	64-19-7
citric acid	Citric acid	≤10	77-92-9
Proprietary	-	Proprietary	-

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Severely corrosive to the respiratory system.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Severely corrosive to the digestive tract. Causes severe burns. May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. 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 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : 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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
propane-1,2-diol	OARS WEEL (United States, 4/2022). TWA: 10 mg/m ³ 8 hours.
l-(+)-lactic acid	None.
propionic acid	ACGIH TLV (United States, 1/2023). TWA: 10 ppm 8 hours. TWA: 30 mg/m ³ 8 hours.
	NIOSH REL (United States, 10/2020). TWA: 10 ppm 10 hours. TWA: 30 mg/m ³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 45 mg/m ³ 15 minutes.
acetic acid	ACGIH TLV (United States, 1/2023). TWA: 10 ppm 8 hours. TWA: 25 mg/m ³ 8 hours. STEL: 15 ppm 15 minutes. STEL: 37 mg/m ³ 15 minutes.
	NIOSH REL (United States, 10/2020). TWA: 10 ppm 10 hours. TWA: 25 mg/m ³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 37 mg/m ³ 15 minutes.
	OSHA PEL (United States, 5/2018). TWA: 10 ppm 8 hours. TWA: 25 mg/m ³ 8 hours.
citric acid	None.
Proprietary	ACGIH TLV (United States, 1/2023). STEL: 0.02 ppm 15 minutes. TWA: 0.01 ppm 8 hours. STEL: 0.07 mg/m ³ 15 minutes. TWA: 0.035 mg/m ³ 8 hours.

Biological exposure indices

None known.

Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator w/ full or ½ face N95 cartridge masks if exposure limits are exceeded or symptoms are experienced.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid. [Clear.]
- Color** : Light yellow
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 2.1 to 2.25
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : 85°C (185°F)
- Flash point** : Closed cup: >70°C (>158°F)
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
water	17.5	2.3		92.258	12.3	

- Relative vapor density** : Not available.

Section 9. Physical and chemical properties

Relative density : 1.06 to 1.08 [Water = 1]

Density : Not available.

Solubility(ies) :	Media	Result
	water	Soluble

Miscible with water : Yes.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature :	Ingredient name	°C	°F	Method
	propane-1,2-diol	371	699.8	

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Particle characteristics

Median particle size : Not applicable.

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
propane-1,2-diol	LD50 Dermal	Rabbit	20800 mg/kg	-
	LD50 Oral	Rat	20 g/kg	-
I-(+)-lactic acid	LC50 Inhalation Dusts and mists	Rat - Male, Female	>7.94 mg/l	4 hours
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	3543 mg/kg	-
propionic acid	LD50 Oral	Rat	2600 mg/kg	-
acetic acid	LC50 Inhalation Vapor	Rat	11000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-
citric acid	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	3 g/kg	-
Proprietary	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1580 mg/kg	-

Conclusion/Summary : Flavorings-related lung disease: May cause damage to organs if inhaled.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
propane-1,2-diol	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
propionic acid	Eyes - Severe irritant	Rabbit	-	990 ug	-
	Skin - Severe irritant	Rabbit	-	495 mg	-
acetic acid	Eyes - Mild irritant	Rabbit	-	0.5 minutes 5 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 50 mg	-
	Skin - Severe irritant	Rabbit	-	525 mg	-
citric acid	Eyes - Severe irritant	Rabbit	-	24 hours 750 ug	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	0.5 MI	-
Proprietary	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
citric acid	Category 3	-	Respiratory tract irritation
Proprietary	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Proprietary	Category 2	inhalation	respiratory system

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Severely corrosive to the respiratory system.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : Severely corrosive to the digestive tract. Causes severe burns. May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness
Inhalation : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion : Adverse symptoms may include the following:
 stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Section 11. Toxicological information

Conclusion/Summary	: Flavorings-related lung disease: May cause damage to organs through prolonged or repeated exposure if inhaled.
General	: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
propane-1,2-diol	20000	20800	N/A	N/A	N/A
l-(+)-lactic acid	3543	2500	N/A	N/A	N/A
propionic acid	2600	N/A	N/A	N/A	N/A
acetic acid	3310	1060	N/A	11	N/A
citric acid	3000	2500	N/A	N/A	N/A
Proprietary	1580	N/A	N/A	3	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
propane-1,2-diol	Acute EC50 24200 mg/l Fresh water	Algae	72 hours
	Acute EC50 >110 ppm Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 1020000 µg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i>	48 hours
l-(+)-lactic acid	Acute LC50 710000 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute EC50 240000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
propionic acid	Acute LC50 130 ppm Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
	Acute EC50 22.7 ppm Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 51 ppm Fresh water	Fish - <i>Oncorhynchus mykiss</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
acetic acid	Acute EC50 73400 µg/l Fresh water	Algae - <i>Navicula seminulum</i>	96 hours
	Acute EC50 65000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 32 mg/l Marine water	Crustaceans - <i>Artemia salina</i>	48 hours
citric acid	Acute LC50 75000 µg/l Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Acute LC50 160000 µg/l Marine water	Crustaceans - <i>Carcinus maenas</i> - Adult	48 hours

Conclusion/Summary : Not available.

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
propane-1,2-diol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	98.3 % - Readily - 28 days	100 mg/l DOC	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
propane-1,2-diol	-	-	Readily
l-(+)-lactic acid	-	-	Readily
propionic acid	-	-	Readily
acetic acid	-	-	Readily
citric acid	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
propane-1,2-diol	-1.07	-	Low
propionic acid	0.33	-	Low
acetic acid	-0.17	3.16	Low
citric acid	-1.8	-	Low
Proprietary	-1.34	-	Low

Mobility in soil




Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN3265	UN3265	UN3265
UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (l-(+)-lactic acid, propionic acid)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (l-(+)-lactic acid, propionic acid)	Corrosive liquid, acidic, organic, n.o.s. (l-(+)-lactic acid, propionic acid)
Transport hazard class(es)	8 	8 	8 
Packing group	II	II	II
Environmental hazards	No.	No.	No.

Additional information

DOT Classification

: **Reportable quantity** 50000 lbs / 22700 kg [5604.4 gal / 21215 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Limited quantity Yes.

Packaging instruction Exceptions: 154. Non-bulk: 202. Bulk: 242.

Quantity limitation Passenger aircraft/rail: 1 L. Cargo aircraft: 30 L.

Special provisions 148, B2, IB2, T11, TP2, TP27

IMDG

: **Emergency schedules** F-A, S-B

Special provisions 274

IATA

: **Quantity limitation** Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y840.

Special provisions A3, A803

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are active or exempted.
Clean Water Act (CWA) 311: propionic acid; acetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

Section 15. Regulatory information

DEA List I Chemicals : Not listed
(Precursor Chemicals)

DEA List II Chemicals : Not listed
(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 4
SKIN CORROSION - Category 1C
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
HNOC - Corrosive to digestive tract [severe]
HNOC - Corrosive to respiratory tract [severe]

Composition/information on ingredients

Name	%	Classification
propane-1,2-diol	≥10 - ≤25	EYE IRRITATION - Category 2B
l-(+)-lactic acid	≥10 - ≤25	SKIN CORROSION - Category 1C
		SERIOUS EYE DAMAGE - Category 1
		HNOC - Corrosive to digestive tract
propionic acid	≥10 - ≤15	HNOC - Corrosive to respiratory tract
		FLAMMABLE LIQUIDS - Category 3
		SKIN CORROSION - Category 1B
		SERIOUS EYE DAMAGE - Category 1
acetic acid	≤8	HNOC - Corrosive to digestive tract
		FLAMMABLE LIQUIDS - Category 3
		ACUTE TOXICITY (dermal) - Category 4
		ACUTE TOXICITY (inhalation) - Category 4
		SKIN CORROSION - Category 1A
		SERIOUS EYE DAMAGE - Category 1
		HNOC - Corrosive to digestive tract [severe]
		HNOC - Corrosive to respiratory tract [severe]
citric acid	≤10	SKIN IRRITATION - Category 2
		EYE IRRITATION - Category 2A
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
		(Respiratory tract irritation) - Category 3
Proprietary	Proprietary	FLAMMABLE LIQUIDS - Category 2
		ACUTE TOXICITY (oral) - Category 4
		ACUTE TOXICITY (inhalation) - Category 3
		SKIN IRRITATION - Category 2
		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
		(Respiratory tract irritation) - Category 3
		SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

SARA 313

Not applicable.

State regulations

Massachusetts : The following components are listed: PROPIONIC ACID; ACETIC ACID

Section 15. Regulatory information

- New York** : The following components are listed: Propionic acid; Acetic acid
- New Jersey** : The following components are listed: PROPYLENE GLYCOL; PROPIONIC ACID; ACETIC ACID
- Pennsylvania** : The following components are listed: 1,2-PROPANEDIOL; PROPANOIC ACID; ACETIC ACID

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	/	4
Flammability		2
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1	On basis of test data Calculation method Calculation method Calculation method

History

Section 16. Other information

Date of issue/Date of revision	: 01/11/2024
Date of previous issue	: No previous validation
Version	: 1
Prepared by	: Sphera Solutions
Key to abbreviations	: ATE = Acute Toxicity Estimate AMP = Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations
References	: HCS (U.S.A.) - Hazard Communication Standard International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.