SAFETY DATA SHEET

according to the Globally Harmonized System and US regulation 29 CFR 1910.1200

DYNAMX

Version 2 Revision Date 04/12/2021 Print Date 03/01/2022 US / Z8

1. IDENTIFICATION

Product name	:	DYNAMX
Product Use Description	:	Specific use(s): Cosmetic additive
Company	:	Nouryon Surface Chemistry LLC 100 Matsonford Road, Building 5, Suite 550 Radnor PA 19087 US
Telephone	:	+18009069977
Fax	:	+13125447188
E-mail address	:	
Emergency telephone	:	CANUTEC: +1 613-996-6666 CHEMTREC: +1 800-424-9300-:

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Color	colorless, light yellow
Odor	slight

GHS Classification

Flammable liquids, Category 3

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	:	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Classification	Concentration [% W/W]
Ethanol	64-17-5	Flam. Liq. 2; H225 Eye Irrit. 2A; H319	>= 20 - < 30

Actual concentration is withheld as a trade secret

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

Inhalation : If breathed in, move person into fresh air.

Skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.

Eye contact : Rinse with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

Ingestion : Clean mouth with water and drink afterwards plenty of water.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Notes to physician

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Risks : No information available.

Treatment : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Specific hazards during fire fighting / Specific hazards arising from the chemical	:	Water spray may be ineffective unless used by experienced firefighters. Do not allow run-off from fire fighting to enter drains or water courses.
Combustion products	:	Carbon oxides
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.

See also Section 9. Physical and chemical properties: Safety data

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Emergency measures on accidental release	:	Evacuate personnel to safe areas. Only qualified personnel equipped with suitable protective equipment may intervene. Prevent unauthorized persons entering the zone.
Environmental precautions	:	Prevent product from entering drains.
Methods for cleaning up / Methods for containment	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Reference to other sections	:	For disposal considerations see section 13. For personal protection see section 8.

7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	For personal protection see section 8. Do not smoke. Container may be opened only under exhaust ventilation hood. Open drum carefully as content may be under pressure.

Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Avoid formation of aerosol.
Keep away from sources of ignition - No smoking.
No sparking tools should be used.
Take measures to prevent the build up of electrostatic charge.

Storage

Requirements for storage areas and containers : No smoking.
Keep in a well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

Minimum storage temperature: : Avoid temperatures below:
-20 °C (-4 °F)

Maximum storage temperature: : 37 °C (99 °F)

Other data : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	STEL	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m3	OSHA P0
		PEL	1,000 ppm 1,900 mg/m3	CAL PEL

Engineering measures : Effective exhaust ventilation system

Personal protective equipment

Respiratory protection : Handle in accordance with good industrial hygiene and safety practice.

Hand protection

Material : For prolonged or repeated contact use protective gloves.

Material : Protective gloves complying with EN 374.

Eye protection	:	Tightly fitting safety goggles
Skin and body protection	:	Protective suit
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Environmental exposure controls

General advice	:	Prevent product from entering drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	colorless, light yellow
Odor	:	slight
Odor Threshold	:	No data available
pH	:	8.3 - 9.2
Melting point/freezing point	:	-4 - 32 °F / -20 - 0 °C
Boiling point/boiling range	:	172 °F / 78 °C
Flash point	:	84 °F / 29 °C Method: Pensky-Martens closed cup
Evaporation rate	:	< 1.7
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Flammable liquid and vapor.
Self-ignition	:	685 °F / 363 °C
Upper explosion limit / Upper flammability limit	:	19 %(V) Ethanol
Lower explosion limit / Lower flammability limit	:	3.3 %(V) Ethanol
Vapor pressure	:	< 53 hPa (68 °F / 20 °C)
Relative vapor density	:	< 1.6 (Air = 1.0)
Relative density	:	No data available

Density	:	0.938 g/cm3
Bulk density	:	979 kg/m3
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	> 212 °F / > 100 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	< 6,000 mPa.s
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

10. STABILITY AND REACTIVITY

Conditions to avoid	:	Heat, flames and sparks.
Materials to avoid	:	None known.
Hazardous decomposition products	:	Carbon oxides nitrogen oxides (NOx)
Thermal decomposition	:	No data available
Reactivity	:	Stable under normal conditions.
Chemical stability	:	Stable under recommended storage conditions.
Hazardous reactions	:	No dangerous reaction known under conditions of normal use.

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:

Hazard Summary

Acute toxicity	:	Not classified based on available information.

Skin corrosion/irritation	:	Not classified based on available information.
Serious eye damage/eye irritation	:	Not classified based on available information.
Respiratory or skin sensitization	:	Respiratory sensitization: Not classified based on available information. Skin sensitization: Not classified based on available information.
Germ cell mutagenicity	:	Not classified based on available information.
Carcinogenicity	:	Not classified based on available information.
Reproductive toxicity	:	Not classified based on available information.
STOT-single exposure	:	Not classified based on available information.
STOT-repeated exposure	:	Not classified based on available information.
Aspiration hazard	:	Not classified based on available information.

Potential Health Effects

Inhalation	:	Not expected to be irritating.
Skin	:	Not expected to be irritating.
Eyes	:	Not expected to be irritating.
Ingestion	:	Not expected to be irritating.
Aggravated Medical Condition	:	None known.
Symptoms of Overexposure	:	The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Toxicology Assessment

Further information	:	Solvents may degrease the skin.

Carcinogenicity:

IARC	:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	:	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

TOXICOLOGY DATA FOR THE INGREDIENTS:

Test result

Component: Ethanol

Acute oral toxicity	:	LD50: 10,470 mg/kg Species: Rat Method: OECD Test Guideline 401 Information taken from reference works and the literature.
Acute inhalation toxicity	:	LC50 (Rat, male): 116.9 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403 Information taken from reference works and the literature.
Skin irritation	:	Species: Rabbit Result: No skin irritation Method: OECD Test Guideline 404 Information taken from reference works and the literature.
Eye irritation	:	Species: Rabbit Result: Irritating to eyes. Method: OECD Test Guideline 405 Information taken from reference works and the literature.
Sensitization	:	Species: Mouse Result: Does not cause skin sensitization. Method: OECD Test Guideline 429 Information taken from reference works and the literature.
Germ cell mutagenicity		
Genotoxicity in vitro	:	Ames test Salmonella typhimurium Result: negative Method: OECD Test Guideline 471 Information taken from reference works and the literature.

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION:

Ecotoxicology Assessment

Additional ecological information	:	None known.

Test result

Elimination information (persistence and degradability)

Biodegradability	:	Result: Inherently biodegradable.

Further information on ecology

Hazardous to the ozone layer

Regulation : 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

COMPONENTS:

Test result

Component: Ethanol

Ecotoxicity effects

Toxicity to fish : LC50: 14,200 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
Test Type: flow-through test
Information taken from reference works and the literature.

Toxicity to daphnia and other aquatic invertebrates : EC50: 5,012 mg/l
Exposure time: 48 h
Species: Ceriodaphnia dubia (water flea)
Test Type: static test
Information taken from reference works and the literature.

Toxicity to algae : ErC50: 275 mg/l
Exposure time: 72 h
Species: Chlorella vulgaris (Fresh water algae)
Method: OECD Test Guideline 201
Information taken from reference works and the literature.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 9.6 mg/l
Exposure time: 9 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Information taken from reference works and the literature.

Elimination information (persistence and degradability)

Bioaccumulation : Bioaccumulation is unlikely.

Mobility : Potential for mobility in soil is high.
The product will be dispersed amongst the various environmental compartments (soil/ water/ air).

Biodegradability : Result: Readily biodegradable.
Information taken from reference works and the literature.

Further information on ecology

Biochemical Oxygen Demand (BOD)	:	1.50 mg O2/mg Method: Calculation method

13. DISPOSAL CONSIDERATIONS

Product	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local regulation.
	:	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not burn, or use a cutting torch on, the empty drum.

14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 1170
Proper shipping name	:	Ethanol solution
Class	:	3
Packing group	:	III
Labels	:	3
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355
Packing instruction (LQ)	:	Y344
Environmentally hazardous	:	no

IMDG-Code

UN number	:	UN 1170
Proper shipping name	:	ETHANOL SOLUTION
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-D
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 1170

Proper shipping name	:	Ethanol solutions
Class	:	3
Packing group	:	III
Labels	:	3
ERG Code	:	127
Marine pollutant	:	no
Reportable Quantity	:	This product does not contain an environmentally hazardous substance per 49 CFR 172.101, Appendix A.

15. REGULATORY INFORMATION

Notification status

TCSI	:	YES. On the inventory, or in compliance with the inventory
TSCA	:	NO. Product contains substance(s) not listed on TSCA inventory.
AICS	:	YES. On the inventory, or in compliance with the inventory
DSL	:	YES. All components of this product are on the Canadian DSL
ENCS	:	NO. Not in compliance with the inventory
ISHL	:	NO. Not in compliance with the inventory
NZIoC	:	YES. On the inventory, or in compliance with the inventory
KECI	:	NO. Not in compliance with the inventory
PICCS	:	NO. Not in compliance with the inventory
IECSC	:	NO. Not in compliance with the inventory

For explanation of abbreviations, see section 16.

TSCA list

TSCA 5(a)(2)	:	No substances are subject to a Significant New Use Rule.
TSCA 12(b)	:	No substances are subject to TSCA 12(b) export notification requirements.

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	Flammable (gases, aerosols, liquids, or solids)
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals subject to disclosure and listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Ethanol	64-17-5	>= 20 - < 30 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Methyl methacrylate	80-62-6	>= 0 - < 0.1 %
Formaldehyde	50-00-0	>= 0 - < 0.1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Methyl methacrylate	80-62-6	>= 0 - < 0.1 %
Formaldehyde	50-00-0	>= 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

Maine Chemicals of High Concern

This product does not contain any chemicals that are listed as Maine Chemicals of High Concern.

California Prop. 65

WARNING:

This product can expose you to chemicals including Formaldehyde, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION

Full text of H-Statements

H225	:	Highly flammable liquid and vapor.
H319	:	Causes serious eye irritation.

Full text of other abbreviations

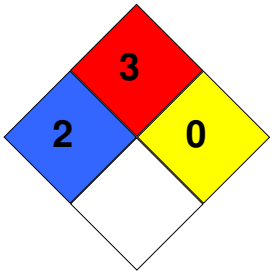
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CAL PEL	:	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / STEL	:	Short-term exposure limit
CAL PEL / PEL	:	Permissible exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Further information

HMIS Classification : Health Hazard: 2
Flammability: 3
Physical hazards: 0

NFPA Classification : Health Hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0



Notification status explanation

TCSI	Taiwan Chemical Substance Inventory (TCSI)
TSCA	United States TSCA Inventory
AICS	Australia Inventory of Chemical Substances (AICS)
DSL	Canadian Domestic Substances List (DSL)
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory

ISHL	Japan. ISHL - Inventory of Chemical Substances
NZIoC	New Zealand. Inventory of Chemical Substances
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances (PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)

Further information

Revision Date 04/12/2021

The information in this safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the c ontext of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old,call to make certain that this sheet is current. No warranty is made as to the product’s merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.