

SAFETY DATA SHEET

according to the Globally Harmonized System and US regulation

Levasil CC401

Version 3

Revision Date 01/14/2021

Print Date 07/25/2022

US / Z8

1. IDENTIFICATION

Product name : Levasil CC401

Product Use Description : Specific use(s): Inorganic binder and surface modifier.

Company : Nouryon Pulp and Performance
Chemicals LLC
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Radnor PA 19087
US

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(collect calls accepted) CANADA CANUTEC +1-613-996-6666

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	liquid
Color	clear, cloudy
Odor	slight, alcohol-like

GHS Classification

Flammable liquids, Category 4

GHS label elements

Signal Word : Warning

Hazard Statements : H227 Combustible liquid.

Precautionary Statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P280 Wear protective gloves/ eye protection/ face protection.
Response:

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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

Common Name : Silane modified colloidal silica
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	$\geq 1 - < 5$

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 : No hazards which require special first aid measures.

Inhalation : If breathed in, move person into fresh air.
If symptoms persist, call a physician.

Skin contact : Remove contaminated clothing and shoes.
Rinse with water.

Eye contact : Rinse with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

Ingestion : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.

Notes to physician

Symptoms : No information available.

Risks : No information available.

Treatment : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during fire fighting / Specific hazards arising from the chemical : No hazards to be specially mentioned.

Combustion products : Carbon oxides

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Standard procedure for chemical fires.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions : No conditions to be specially mentioned.

Emergency measures on accidental release : Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions : No special environmental precautions required.

Methods for cleaning up /
Methods for containment : Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.
If liquid has been spilt in large quantities clean up promptly by scoop or vacuum.

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.
No special handling advice required.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place.
Keep away from direct sunlight.

Advice on common storage : No special restrictions on storage with other products.

Minimum storage temperature: : Avoid temperatures below:
0 °C (32 °F)

Maximum storage temperature: : 40 °C (104 °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/m ³	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m ³	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m ³	OSHA P0
		PEL	1,000 ppm 1,900 mg/m ³	CAL PEL

Engineering measures : Effective exhaust ventilation system

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Material : PVC

Material : Rubber gloves

Eye protection : Safety glasses

Hygiene measures : General industrial hygiene practice.

Environmental exposure controls

General advice : No special environmental precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : clear, cloudy

Odor : slight, alcohol-like

Odor Threshold : No data available

pH : 6 - 9

Melting point/range : 32 °F / 0 °C

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Boiling point/boiling range	: 212 °F / 100 °C
Flash point	: 140.9 - 199 °F / 60.5 - 93 °C Method: Pensky-Martens closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: Not classified as supporting combustion according to the transport regulations.
Self-ignition	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: ca. 23 hPa (68 °F / 20 °C)
Relative vapor density	: No data available
Relative density	: 1.2 - 1.3
Solubility(ies)	
Water solubility	: dispersible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: < 50 mPa.s (68 °F / 20 °C)
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: 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	: Avoid allowing solution to dry as this can lead to a build-up of dust.
Materials to avoid	: Copper

Mild steel
Aluminum

Hazardous decomposition products	: No hazardous decomposition products are known.
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	: May cause respiratory tract irritation.
Skin	: Causes mild skin irritation.
Eyes	: May cause eye irritation.
Ingestion	: May cause irritation of the mucous membranes.
Aggravated Medical	: None known.

Condition

Symptoms of Overexposure : No information available.

Toxicology Assessment

Further information : Information given is based on data on the ingredients and the toxicology of similar products.

Test result

Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
The value is estimated from tests on similar products.

Acute inhalation toxicity : NOEC (Rat): 75.9 mg/l
Exposure time: 7 d
Test atmosphere: aerosol
Method: OECD Test Guideline 413
Assessment: The substance or mixture is not classified.

LC50 (Rat): > 5,126 mg/l
Exposure time: 4 h
Test atmosphere: aerosol
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : NOAEL (No observed adverse effect level): Method: OECD Test Guideline 428
Information given is based on tests on the mixture itself.

Sensitization : Local lymph node assay (LLNA)
Species: Mouse
Result: Did not cause sensitization on laboratory animals.
Method: OECD Test Guideline 429
Information given is based on tests on the mixture itself.

Germ cell mutagenicity

Genotoxicity in vitro : Ames test
Result: negative
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Information given is based on tests on the mixture itself.

In vitro cytogenetic test in human lymphocytes:
Result: negative
Method: OECD Test Guideline 487
Information given is based on tests on the mixture itself.

In vitro gene mutation study in mammalian cells
Result: negative
Method: OECD Test Guideline 476
Information given is based on tests on the mixture itself.

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

Ecotoxicity effects

Toxicity to fish : LC50: > 5,000 mg/l
Exposure time: 96 h
Species: Danio rerio (zebra fish)
The value is estimated from tests on similar products.

Toxicity to daphnia and other aquatic invertebrates : EC50: 7,600 mg/l
Exposure time: 48 h
Species: Ceriodaphnia dubia (water flea)
The value is estimated from tests on similar products.

Toxicity to algae : NOEC: 60 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

EC50: 120 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

EC10: 140 mg/l
Exposure time: 48 h
Species: Selenastrum capricornutum (green algae)
The value is estimated from tests on similar products.

Elimination information (persistence and degradability)

Bioaccumulation : Bioaccumulation is not expected.

Mobility : No test results
Under extreme circumstances, transport from earth to water may take place.

Distribution among environmental compartments : Remarks: Transport to air is not expected.

Biodegradability : Result: Not applicable
inorganic

Further information on ecology

Biochemical Oxygen : No data available

Demand (BOD)

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.

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Further information on ecology

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

13. DISPOSAL CONSIDERATIONS

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

International Regulations

ADR

Not regulated as a dangerous good

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

Further information for transport

Not classified as dangerous in the meaning of transport regulations.

Domestic regulation

49 CFR

Not regulated as a dangerous good

TDG

Not regulated as a dangerous good

NOM-002-SCT

Not regulated as a dangerous good

15. REGULATORY INFORMATION

Notification status

TCSI	: YES. On the inventory, or in compliance with the inventory
TSCA	: YES. All substances listed as active on the TSCA inventory
AICS	: YES. On the inventory, or in compliance with the inventory
DSL	: NO. This product contains one or several components that are not on the Canadian DSL nor NDSL.
ENCS	: YES. On the inventory, or in compliance with the inventory

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ISHL : 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 : YES. On the inventory, or in compliance with the inventory
NZIoC : YES. On the inventory, or 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 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Ethanol	64-17-5	>= 1 - < 5 %
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Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

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 Dibromoacetic acid, 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; KECl - 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

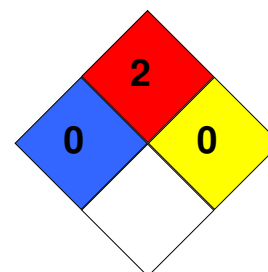
Further information

HMIS Classification

: Health Hazard: 0
Chronic Health Hazard: /
Flammability: 2
Physical hazards: 0

NFPA Classification

: Health Hazard: 0
Fire Hazard: 2
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
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)
NZIoC	New Zealand. Inventory of Chemical Substances

Further information

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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 context 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.

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