

# NOSB NATIONAL LIST FILE CHECKLIST

## PROCESSING

**MATERIAL NAME:** # 7 Colloidal Silica



**NOSB Database Form**



**References**



**MSDS (or equivalent)**



**FASP (FDA)**



**TAP Reviews from:** Joe Montecalvo, Rich  
Theuer

**NOSB/NATIONAL LIST  
COMMENT FORM  
PROCESSING**

**Material Name: #7 Colloidal Silica**

*Please use this page to write down comments, questions, and your anticipated vote(s).*

**COMMENTS/QUESTIONS:**

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1. In my opinion, this material is:  
 Synthetic  Non-synthetic.

2. Should this material be allowed in an "organic food" (95% or higher organic ingredients)?  Yes  No  
**(IF NO, PROCEED TO QUESTION 3.)**

3. Should this substance be allowed in a "food made with organic ingredients" (50% or higher organic ingredients)?  Yes  No

# TAP REVIEWER COMMENT FORM for USDA/NOSB

Use this page or an equivalent to write down comments and summarize your evaluation regarding the data presented in the file of this potential National List material. Complete both sides of page. Attach additional sheets if you wish.

This file is due back to us by: August 8

Name of Material: Colloidal Silica

Reviewer Name: \_\_\_\_\_

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

Synthetic

If synthetic, how is the material made? (please answer here if our database form is blank)

This material should be added to the National List as:

Synthetic Allowed       Prohibited Natural

or,  Non-synthetic (Allowed as an ingredient in organic food)

Non-synthetic (Allowed as a processing aid for organic food)

or,  this material should not be on the National List

Are there any use restrictions or limitations that should be placed on this material on the National List?

only for specific uses

Please comment on the accuracy of the information in the file: good

Any additional comments? (attachments welcomed) none

Do you have a commercial interest in this material?  Yes;  No

Signature [Signature] Date 7/30/95

**Please address the 7 criteria in the Organic Foods Production Act:  
(comment in those areas you feel are applicable)**

- (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;**

*none*

- (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;**

*none*

- (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;**

*none*

- (4) the effect of the substance on human health;**

*none*

- (5) the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;**

*none*

- (6) the alternatives to using the substance in terms of practices or other available materials; and**

*none*

- (7) its compatibility with a system of sustainable agriculture.**

*O.K.*

# TAP REVIEWER COMMENT FORM for USDA/NOSB

Use this page or an equivalent to write down comments and summarize your evaluation regarding the data presented in the file of this potential National List material. Complete both sides of page. Attach additional sheets if you wish.

This file is due back to us by: August 8

Name of Material: Colloidal Silica

Reviewer Name: R. Theuer

Is this substance Synthetic or non-synthetic? Explain (if appropriate)

SYNTHETIC

If synthetic, how is the material made? (please answer here if our database form is blank)

✓

This material should be added to the National List as:

Synthetic Allowed       Prohibited Natural

or,  Non-synthetic (Allowed as an ingredient in organic food)

Non-synthetic (Allowed as a processing aid for organic food)

or,  this material should not be on the National List

Are there any use restrictions or limitations that should be placed on this material on the National List?

CURRENTLY ALLOWED USES

Please comment on the accuracy of the information in the file:

Any additional comments? (attachments welcomed)

Do you have a commercial interest in this material?  Yes;  No

Signature R. Theuer      Date 8/28/95

**Please address the 7 criteria in the Organic Foods Production Act:**  
(comment in those areas you feel are applicable)

- (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems;

NO ISSUE

- (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment;

NO ISSUE

- (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;

NO ISSUE

- (4) the effect of the substance on human health;

DUST IS A PROBLEM

LOW USAGE LEVEL IN FOODS ARE SAFE

- (5) the effects of the substance on biological and chemical interactions in the agroecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crops and livestock;

NO ISSUE

- (6) the alternatives to using the substance in terms of practices or other available materials; and

OTHER MINERALS (TALC) CAN BE WORSE

- (7) its compatibility with a system of sustainable agriculture.

OK.

## Identification

<b>Common Name</b>	<b>Colloidal Silica</b>	<b>Chemical Name</b>	
<b>Other Names</b>	Synthetic Amorphous Silica, Fumed Silica		
<b>Code #: CAS</b>	1343-98-2	<b>Code #: Other</b>	NIOSH NO.: VV8850000
<b>N. L. Category</b>	Non-agricultural	<b>MSDS</b>	<input checked="" type="radio"/> yes <input type="radio"/> no

## Chemistry

**Family**

**Composition** SiO<sub>2</sub>. Amorphous substance that shows a noncrystalline pattern when examined by X-ray diffraction.

**Properties** White fluffy, non-gritty powder of very fine particle size. Hygroscopic. Negligible solubility in water or organic solvents, but soluble in hydrofluoric acid and in hot concentrated solutions of alkalis; specific gravity 2.10.

**How Made** Produced synthetically by a vapor-phase hydrolysis process, which yields the (anhydrous) fumed (or colloidal) silica. Wet-process yields silica gel which is hydrated.

## Use/Action

**Type of Use** Processing

**Specific Use(s)** Anti-caking agent, defoaming agent, carrier, conditioning agent.

**Action**

**Combinations**

## Status

**OFPA**

**N. L. Restriction**

**EPA, FDA, etc** FDA-GRAS

**Directions**

**Safety Guidelines**

**State Differences**

**Historical status**

**International status**

## OEPA Criteria

2119(m)1: chemical interactions      Not Applicable

2119(m)2: toxicity & persistence      Not Applicable

2119(m)3: manufacture & disposal consequences

2119(m)4: effect on human health

2119(m)5: agroecosystem biology      Not Applicable

2119(m)6: alternatives to substance

2119(m)7: Is it compatible?

## References

AU: Krishna,-A.G.G.

TI: A method for bleaching rice bran oil with silica gel.

SO: J-Am-Oil-Chem-Soc. Champaign, Ill. : The Society. Dec 1992. v. 69 (12) p. 1257-1259.

CN: DNAL 307.8-J82

AU: Rao,-Gangadhar-Vemunganti.; Pfof,-Harry-B., 1919-

TI: Regeneration capacity of silica gel for grain drying.

SO: Manhattan, Kan.: Kansas State Univ., Food & Feed Grain Institute, 1974. ii, 32 p.

CN: DNAL SB188.G7-no.7



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# MSDS for SILICA GEL

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## 1 - PRODUCT IDENTIFICATION

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PRODUCT NAME: SILICA GEL  
FORMULA: FORMULA WT: .00  
CAS NO.: 1343-98-2 NIOSH/RTECS NO.: VV8850000  
COMMON SYNONYMS: AMORPHOUS SILICON DIOXIDE; SILICIC ACID  
PRODUCT CODES: 7290,3406,3404,3405,5111  
EFFECTIVE: 06/09/86 REVISION #02

### PRECAUTIONARY LABELLING

BAKER SAF-T-DATA(TM) SYSTEM  
HEALTH - 1 SLIGHT  
FLAMMABILITY - 0 NONE  
REACTIVITY - 0 NONE  
CONTACT - 1 SLIGHT

HAZARD RATINGS ARE 0 TO 4 (0 = NO HAZARD; 4 = EXTREME HAZARD).

LABORATORY PROTECTIVE EQUIPMENT: SAFETY GLASSES; LAB COAT

### PRECAUTIONARY LABEL STATEMENTS

CAUTION MAY CAUSE IRRITATION MAY BE HARMFUL IF INHALED  
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER  
HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.  
SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

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## 2 - HAZARDOUS COMPONENTS

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COMPONENT	%	CAS NO.
SILICA GEL	90-100	01343-98-2

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## 3 - PHYSICAL DATA

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BOILING POINT: 2230 C ( 4046 F) VAPOR PRESSURE(MM HG): N/A  
MELTING POINT: N/A VAPOR DENSITY(AIR=1): N/A  
SPECIFIC GRAVITY: 2.10 EVAPORATION RATE: N/A  
(H<sub>2</sub>O=1) (BUTYL ACETATE=1)  
SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

SOLUBILITY(H<sub>2</sub>O): NEGLIGIBLE (LESS THAN 0.1 %) % VOLATILES BY VOLUME: N/A

APPEARANCE & ODOR: ODORLESS, WHITE, GRANULAR POWDER (AMORPHOUS).

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## 4 - FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT (CLOSED CUP N/A  
FLAMMABLE LIMITS: UPPER - N/A % LOWER - N/A %  
FIRE EXTINGUISHING MEDIA  
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.  
SPECIAL FIRE-FIGHTING PROCEDURES:  
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED  
BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

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## 5 - HEALTH HAZARD DATA

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THRESHOLD LIMIT VALUE (TLV/TWA): 10 MG/M3 ( PPM)

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

EFFECTS OF OVEREXPOSURE

PROLONGED CONTACT MAY CAUSE SKIN IRRITATION.

DUST MAY IRRITATE OR BURN MUCOUS MEMBRANES.

TARGET ORGANS: NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE IDENTIFIED

ROUTES OF ENTRY: NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE  
LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED  
PERSON TO FRESH AIR. GET MEDICAL ATTENTION.

EYE CONTACT: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15  
MINUTES. GET MEDICAL ATTENTION.

SKIN CONTACT: IMMEDIATELY WASH WITH PLENTY OF SOAP AND WATER FOR AT LEAST  
15 MINUTES.

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#### 6 - REACTIVITY DATA

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STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE

INCOMPATIBLES: HYDROGEN FLUORIDE

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#### 7 - SPILL AND DISPOSAL PROCEDURES

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STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE

WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL  
ENVIRONMENTAL REGULATIONS.

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#### 8 - PROTECTIVE EQUIPMENT

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VENTILATION: STABLE USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET CUR  
TLV REQUIREMENTS.

CONDITIONS TO AVOID: MOISTURE

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE

INCOMPATIBLES: CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS  
ABOVE 10 MG/M<sup>3</sup>, A DUST/MIST RESPIRATOR IS RECOMMENDED.

EYE/SKIN PROTECTION: --- SAFETY GLASSES WITH SIDESHIELDS, PROPER GLOVES ARE ---  
RECOMMENDED.

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#### 9 - STORAGE AND HANDLING PRECAUTIONS

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DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL  
SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

SPECIAL PRECAUTIONS

KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR GENERAL CHEMICAL STORAGE AREA.

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#### 10 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

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DOMESTIC (D.O.T.)

PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME CHEMICALS, N.O.S. (NON-REGULATED)