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:

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 use

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: ______________________ Date: 7/30/85
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;
   nae

(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.
Name of Material: Collodial 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: __________ Date: __8/28/51
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
NOSB Materials Database

Identification

Common Name: Colloidal Silica
Other Names: Synthetic Amorphous Silica, Fumed Silica
Code #: CAS: 1343-98-2
N. L. Category: Non-agricultural

Chemical Name

Code #: Other
NIOSH NO.: VV8850000
MSDS: ○ yes ○ no

Chemistry

Family: SiO₂. Amorphous substance that shows a noncrystalline pattern when examined by X-ray diffraction.
Composition: 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.
Properties: 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.

Status

OFPA
N. L. Restriction: FDA-GRAS
EPA, FDA, etc Directions
Safety Guidelines
State Differences
Historical status
International status
OFPA 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.
CN: DNAL 307.8-J82

AU: Rao.-Gangadhar-Vemunganti.; Pfoest.-Harry-B., 1919-
TI: Regeneration capacity of silica gel for grain drying.
CN: DNAL SB188.G7-no.7
MSDS for SILICA GEL

1 - PRODUCT IDENTIFICATION

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)

2 - HAZARDOUS COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>%</th>
<th>CAS NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILICA GEL</td>
<td>90-100 01343-98-2</td>
<td></td>
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3 - PHYSICAL DATA

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
(H2O=1) (BUTYL ACETATE=1)

SAF-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

SOLUBILITY(H2O): NEGLIGIBLE (LESS THAN 0.1 %) % VOLATILES BY VOLUME: N/A
APPEARANCE & ODOR: ODORLESS, WHITE, GRANULAR POWDER (AMORPHOUS).

4 - FIRE AND EXPLOSION HAZARD DATA

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.

5 - HEALTH HAZARD DATA

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.

6 - REACTIVITY DATA

STABILITY: STABLE  HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: MOISTURE
INCOMPATIBLES: HYDROGEN FLUORIDE

7 - SPILL AND DISPOSAL PROCEDURES

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.

8 - PROTECTIVE EQUIPMENT

VENTILATION: STABLE  USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET CUR TMV REQUIREMENTS.
CONDITIONS TO AVOID: MOISTURE
RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE
INCOMPATIBLES: CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS ABOVE 10 MG/M3, A DUST/MIST RESPIRATOR IS RECOMMENDED.
EYE/SKIN PROTECTION: --- SAFETY GLASSES WITH SIDESHIELDS, PROPER GLOVES ARE --- RECOMMENDED.

9 - STORAGE AND HANDLING PRECAUTIONS

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL
SAFE-T-DATA(TM) STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)
SPECIAL PRECAUTIONS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR GENERAL CHEMICAL STORAGE AREA.

10 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

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)