

Material Safety Data Sheet

Material: 60004600

HDK® N20
HYDROPHILIC FUMED SILICA

Version: 1.9 (US)

Date of print: 02/07/2008

Date of last alteration: 08/08/2005

1 Product and company identification**1.1 Identification of the substance or preparation:**

Commercial product name: HDK® N20
HYDROPHILIC FUMED SILICA

Use of substance / preparation: Industrial.
Auxiliary agent for: Plastics , Lacquer , Building materials , elastomer products , cosmetics .

1.2 Company/undertaking identification:

Manufacturer/distributor: Wacker Chemie AG
Hanns-Seidel-Platz 4
81737 München
Germany

Customer information: Wacker Chemical Corporation
3301 Sutton Road
Adrian, Michigan 49221-9397
USA
InfoLine:
Tel (517) 264-8240, Fax (517) 264-8740
Hours of operation:
Monday - Friday, 8 am to 5 pm (eastern standard time)
Corporate website: www.wackersilicones.com

Emergency telephone no. (24h): (517) 264-8500
Transportation emergency: (800) 424-9300 (CHEMTREC, USA)
(703) 527-3887 (CHEMTREC, international)

This MSDS was prepared by the Regulatory Affairs and Product Safety Department (RAPS) of Wacker Chemical Corporation.

2 Composition/information on ingredients**2.1 Chemical characterization (substance):**

CAS No.	Chemical characteristics
112945-52-5	Pyrogenic micro-dispersed silica, synthetic X-ray amorphous silicon dioxide (SiO ₂)

2.2 Information on ingredients:

Type	CAS No.	Substance	Content [wt. %]		Note
			Lower	Upper	
INHA	112945-52-5	Silica, amorphous, fumed	>=100.0	<=100.0	

Type: HYD - by-product upon hydrolysis, INHA - ingredient, NEBE - by-product, MONO - residual monomer, VERU - impurity, VUL - by-product upon vulcanization. *** **Note:** C1 - IARC carcinogen, C2 - NTP carcinogen, C3 - OSHA carcinogen, NH - non-hazardous, R - reproductive toxin.

Substances listed in the Subsections "HAPS" and "California Proposition 65 Carcinogens / Reproductive Toxins" that are not listed in Section 2 are only present at quantities below 0.1% for California Proposition 65 listed toxins or below 1% for non-carcinogenic HAPS or they are inextricably bound in the product.

3 Hazards identification**3.1 Hazards classifications****HMIS® rating (product as packaged):**

Health: 1

Fire: 0

Reactivity: 0

PPE: E

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Note: Respiratory protection is only recommended in the event that ventilation or engineering controls are unable to maintain exposures below recommended levels; or in the event of a spill or other emergency response situation. Hazardous Materials Identification System and HMIS are registered trademarks of the National Paint and Coatings Association. (HMIS codes are based on contact with the product as packaged and any hydrolysis by-products, if present.)

Canadian WHMIS Classification: None.

3.2 Emergency overview and potential hazards**Physical Hazards:**

Nuisance dust.

Acute health effects**Route of entry or possible contact:**

eyes , skin , inhalation

Eye contact:

No acute toxic effects are expected. Slight irritation by mechanical effects is possible.

Skin contact:

No acute toxic skin effects are expected. Temporary discomfort like feeling of dryness on the skin.

Inhalation:

No acute toxic respiratory tract effects are expected. May cause physical discomfort to the respiratory tract.

Ingestion:

Not expected in industrial use.

Additional information on acute health effects:

Re Sect. 11.2 "Toxicological data", LC50 (inhalative): no mortalities at highest technical achievable concentration (rat) .

3.3 Further information:**Chronic health effects:**

Not mutagenic in different in-vitro and in-vivo test systems. A long term exposure exceeding TLV can lead to damaging effect as a result of mechanical overloading of the respiratory tract. Chronic respiratory exposure: Changes in respiratory organs observed in animal experiments (inflammatory processes) were reversible; no indication of silicosis. Animal tests have shown no indication to carcinogenic or to reproduction effects.

Medical conditions which may be aggravated by exposure:

unknown

Carcinogens/Reproductive toxins:

This material does not contain any reportable carcinogenic ingredients. This material does not contain any reproductive toxins at or above OSHA or WHMIS reportable levels.

See Section 11 for Toxicological Information, if any.

4 First-aid measures**4.1 General information:**

Get medical attention if irritation occurs or if breathing becomes difficult.

4.2 After inhalation:

If inhaled, remove to fresh air.

4.3 After contact with the skin:

If contact with skin, wash skin with plenty of water or with water and soap.

4.4 After contact with the eyes:

If contact with eyes, immediately flush eyes with plenty of water.

4.5 After swallowing:

Drink plenty of water. Get medical attention if symptoms occur. Show label if possible.

5 Fire-fighting measures**5.1 Flammable properties:****Method**

Flash point.....: not applicable

Boiling point / boiling range.....: not applicable

Lower explosion limit (LEL).....: not applicable

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Upper explosion limit (UEL).....: not applicable
Ignition temperature: not applicable

- 5.2 Fire and explosion hazards:**
Material does not burn. Electrostatic charging is possible.
- 5.3 Recommended extinguishing media:**
Use extinguishing measures appropriate to the source of fire.
- 5.4 Unsuitable extinguishing media:**
not applicable
- 5.5 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:**
not applicable
- 5.6 Fire fighting procedures:**
Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

6 Accidental release measures

- 6.1 Precautions:**
Avoid dust formation. Do not breathe dust. Wear personal protection equipment (see section 8).
HAZWOPER PPE Level: D
- 6.2 Containment:**
Cover any spilled material in accordance with regulations to prevent dispersal by wind. Spills of material which could reach surface waters must be reported to the United States Coast Guard National Response Center's toll free phone number (800) 424-8802.
- 6.3 Methods for cleaning up:**
Damp down dust and fill into containers.

7 Handling and storage

- 7.1 Handling**
Precautions for safe handling:
Avoid dust formation.
Precautions against fire and explosion:
Electrostatic discharge possible during transport and processing. Take precautionary measures against electrostatic charging. Ensure all parts of equipment are well earthed. Use inert gas when working with combustible and explosive liquids. Avoid dust deposit, remove dust regularly.
- 7.2 Storage**
Conditions for storage rooms and vessels:
none known
Advice for storage of incompatible materials:
not applicable
Further information for storage:
Keep container dry and tightly closed.

8 Exposure controls and personal protection

- 8.1 Engineering controls**
Ventilation:
Use only with adequate ventilation.
Local exhaust:
In case of dust formation: (To maintain concentration below TLV.) Local exhaust ventilation which meets the requirements of ANSI Z9.2 is recommended to control airborne contaminants at the point of use.
- 8.2 Associate substances with specific control parameters such as limit values**
Maximum airborne concentrations at the workplace:

CAS No.	Material	Type	mg/m ³	ppm	Dust fract.
7631-86-9	Silica, amorphous	OSHA PEL	0.8		

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	Particulates not otherwise classified	ACGIH TWA	10.0		Inhalable dust
	Particulates not otherwise classified	ACGIH TWA	3.0		Respirable dust

Re Silica, amorphous: The exposure limits given for CAS-No. 7631-86-9 cover all types of synthetic amorphous silica; it appears, that there is an error in the OSHA PEL entry for amorphous silica. There should have been a footnote to the Z-3 Table indicating that the percent SiO2 in formula (80 mg/m3 + % SiO2) refers to crystalline silica content and not to amorphous silica. For evaluation of U.S. exposure measurements WACKER recommends use of the current NIOSH REL (6 mg/m3) instead of the old Z-3 Table entry.
Re Particulates not otherwise classified: The value is for particulate matter containing no asbestos and < 1% crystalline silica (ACGIH).

8.3 Personal protection equipment (PPE)

Respiratory protection:

In case of dust formation: A NIOSH approved particulate respirator with a P95 or higher rating.

Hand protection:

Recommendation: rubber gloves .

Eye protection:

Recommendation: Safety glasses with side shields or chemical safety goggles.

Other protective clothing or equipment:

Barrier cream may be used to prevent dryness of skin.

8.4 General hygiene and protection measures:

Do not breathe dust/vapor/mist/gas/aerosol. Wash thoroughly after handling.

9 Physical and chemical properties

9.1 Appearance

Physical state / form.....: solid - powder
Colour.....: white
Odour.....: odourless

9.2 Safety parameters

Method

Melting point / melting range.....: 1700 °C (3,092 °F)
Boiling point / boiling range.....: not applicable
Flash point.....: not applicable
Ignition temperature: not applicable
Lower explosion limit (LEL).....: not applicable
Upper explosion limit (UEL).....: not applicable
Vapour pressure.....: not applicable
Density.....: approx. 2.2 g/cm3 (DIN 51757)
Bulk density.....: 20 - 130 kg/m³
Water solubility / miscibility.....: virtually insoluble at 20 °C (68 °F)
pH-Value.....: 3.6 - 4.5 (40 g/l H2O)
Viscosity (dynamic).....: not applicable

10 Stability and reactivity

10.0 General information:

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

10.1 Conditions to avoid:

none known

10.2 Materials to avoid:

none known

10.3 Hazardous decomposition products:

If stored and handled in accordance with standard industrial practices and local regulations where applicable: none known .

10.4 Further information:

Hazardous polymerization cannot occur.

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11 Toxicological information**11.1 General information:**

The following data were taken from literature.

11.2 Toxicological data:**Acute toxicity (LD50/LC50-values relevant to classification):**

Exposition	Value/value range	Species	Source
oral	> 5000 mg/kg	rat (Limit Test)	literature
dermal	> 5000 mg/kg	rabbit (Limit Test)	literature
by inhalation	> 0.139 mg/l/4h	rat (Limit Test)	literature

Primary irritation:

Exposition	Effect	Species/Testsystem	Source
to skin	not irritating	rabbit	literature
to eyes	not irritating	rabbit	literature

Experience with man:

By handling the product for many years no damage to health was observed.

12 Ecological information**12.1 Information on elimination (persistence and degradability)****Biodegradation / further information:**

Not applicable.

Further information:

Insoluble in water.

12.2 Behaviour in environmental compartments**Mobility**

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Further information:

No adverse effects expected.

12.3 Ecotoxicological effects:

Species	Test method	Exp. Time	Result	Source
Daphnia magna	acute	24 h	> 10000 mg/l (EC50)	literature
zebra fish (Brachydanio rerio)	acute	96 h	> 10000 mg/l (LC50)	literature

No expected damaging effects to aquatic organisms.

Effects in sewage treatment plants (bacteria toxicity: respiration-/reproduction inhibition):According to current knowledge adverse effects on water purification plants are not expected.
Can be removed mechanically from waste water.**12.4 Additional information****Other harmful effects**

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General information:

Insoluble in water.

13 Disposal considerations**13.1 Product disposal****Recommendation:**

After solidification, material can be stored together with domestic waste. Observe local/state/federal regulations.

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13.2 Packaging disposal**Recommendation:**

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.

14 Transport information

14.1 US DOT & CANADA TDG SURFACE

Valuation.....: Not regulated for transport

14.2 Transport by sea IMDG-Code

Valuation.....: Not regulated for transport

14.3 Air transport ICAO-TI/IATA-DGR

Valuation.....: Not regulated for transport

15 Regulatory information

15.1 U.S. Federal regulations**TSCA inventory status and TSCA information:**

This material or its components are listed on or are in compliance with the requirements of the TSCA Chemical Substance Inventory. This material is in compliance with TSCA under CAS Number 7631-86-9 (silica, amorphous).

TSCA 12(b) Export Notification:

This material does not contain any TSCA 12(b) regulated chemicals.

CERCLA Regulated Chemicals:

This material does not contain any CERCLA regulated chemicals.

SARA 302 EHS Chemicals:

This material does not contain any SARA extremely hazardous substances.

SARA 311/312 Hazard Class:

This product does not present any SARA 311/312 hazards.

SARA 313 Chemicals:

This material does not contain any SARA 313 chemicals above de minimus levels.

HAPS (Hazardous Air Pollutants):

This material does not contain any hazardous air pollutants.

15.2 U.S. State regulations**California Proposition 65 Carcinogens:**

This material does not contain any chemicals known to the state of California to cause cancer.

California Proposition 65 Reproductive Toxins:

This material does not contain any chemicals known to the state of California to cause reproductive effects.

Massachusetts Substance List:

112945-52-5 Silica, amorphous, fumed

New Jersey Right-to-Know Hazardous Substance List:

112945-52-5 Silica, amorphous, fumed

Pennsylvania Right-to-Know Hazardous Substance List:

112945-52-5 Silica, amorphous, fumed

15.3 Canadian regulations

This product has been classified in accordance with the Hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Hazard Classes:

None.

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DSL Status:

This material or its components are listed on the Canadian Domestic Substances List.

Non-DSL Chemicals:

This material does not contain any non-DSL chemicals.

Canadian Ingredient Disclosure List:

112945-52-5 Silica, amorphous, fumed

15.4 Other international regulations**EU Risk Phrases:**

R-Phrase	Description
R-	-

EU Safety Phrases:

S-Phrase	Description
S-	-

Details of international registration status

Listed on the following inventories:

IECSC - China
EINECS - Europe
ENCS - Japan
PICCS - Philippines
ECL - Korea
AICS - Australia
HSNO - New Zealand**16 Other information****16.1 Additional information:**

This Material Safety Data Sheet (MSDS) meets the requirements of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license under valid patents. This MSDS provides selected regulatory information on this product, including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

16.2 Glossary of Terms:ACGIH - American Conference of Governmental
Industrial Hygienists
DOT - Department of Transportation
hPa - Hectopascals
mPa*s - Milli Pascal-Seconds
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limitppm - Parts per Million
SARA - Superfund Amendments and Reauthorization Act
STEL - Short Term Exposure Limit
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
WHMIS - Canadian Workplace Hazardous Materials
Identification System**Flash point determination methods**ASTM D56
ASTM D92, DIN 51376, ISO 2592
ASTM D93, DIN 51758, ISO 2719
ASTM D3278, DIN 55680, ISO 3679
DIN 51755**Common name**Tagliabue (Tag) closed cup
Cleveland open cup
Pensky-Martens closed cup
Setaflash or Rapid closed cup
Abel-Pensky closed cup

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16.3 Conversion table:

Pressure: 1 hPa * 0.75 = 1 mm Hg = 1 Torr; 1 bar = 1000 hPa

Viscosity: 1 mPa*s = 1 Centipoise (Cp)