WACKER FINE CHEMICALS

Material Safety Data Sheet

Material: 60006980 **CAVAMAX® W6 PHARMA**

Version: 1.6 (US) Date of print: 03/14/2006 Date of last alteration: 10/14/2005

1 Product and company identification

1.1 Identification of the substance or preparation:

Commercial product name: CAVAMAX® W6 PHARMA
Product group: Cyclodextrin
Use of substance / preparation: Industrial.
Auxiliary agent for: medicine .

1.2 Company/undertaking identification:

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

Customer information:
WACKER FINE CHEMICALS
Tel (517)264-8165, Fax (517) 264-8795Hours of operation:
Monday - Friday ,8 am to 5 pm (eastern standard time)
Corporate Website: www.wacker.com

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

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
10016-20-3	Cyclohexaamylose

2.2 Information on ingredients:

Type	CAS No.	Substance	Content [wt. %]		Note
			Lower	Upper	
INHA	10016-20-3	Cyclohexaamylose	60.0	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: 2 Fire: 2 Reactivity: 0 PPE: E

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.

Canadian WHMIS Classification: D2B

3.2 Emergency overview and potential hazards
Signal Word:
WARNING

Physical Hazards:
Nuisance dust.

Acute health effects
Route of entry or possible contact:
eyes , skin , inhalation (in case of dust formation) , ingestion
Eye contact:
Causes eye irritation.
Skin contact:
No acute toxic effects are expected.
Inhalation:
No acute toxic effects are known.
Ingestion:
Not expected in industrial use. No acute toxic effects are expected.
Additional information on acute health effects:
odourless

3.3 Further information:
Chronic health effects:
none known
Medical conditions which may be aggravated by exposure:
unknown
Carcinogens/Reproductive toxins:
There are no carcinogenic ingredients present at or over 0.1% in this material. 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:
In cases of sickness seek medical advice (show label or SDS if possible).
4.2 After inhalation:
If inhaled, remove to fresh air. Get medical attention if symptoms occur.
4.3 After contact with the skin:
If contact with skin, wash skin with plenty of water or with water and soap. Get medical attention if symptoms occur.
4.4 After contact with the eyes:
If contact with eyes, immediately flush eyes with plenty of water. Get medical attention.
4.5 After swallowing:
If swallowed, give victim several glasses of water. Get medical attention if symptoms occur.

5 Fire-fighting measures

5.1 Flammable properties: **Method**
Flash point.....: not applicable
Lower explosion limit (LEL).....: 60 g/m³
Upper explosion limit (UEL).....: not determined
Ignition temperature .....: no data at hand
5.2 Fire and explosion hazards:
The product is a combustible organic dust and under special conditions dust explosion is possible. Electrostatic charging is possible.
5.3 Recommended extinguishing media:
water , carbon dioxide , sand , dry chemical or foam-type extinguishing media
5.4 Unsuitable extinguishing media:
none known
5.5 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:
At low oxygen level: carbon monoxide .
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:
Wear personal protection equipment (see section 8). Avoid dust formation. Avoid contact with eyes and skin. Do not breathe dust.
HAZWOPER PPE Level: D

6.2 Containment:
Cover any spilled material in accordance with regulations to prevent dispersal by wind. Dispose of in prescribed marked containers. Observe local/state/federal regulations.
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:
Take up mechanically and dispose of according to local/state/federal regulations. Avoid dust formation. Clean up with plenty of water. Dispose of cleansing water in accordance with local/state/federal regulations.

6.4 Further information:
Consider explosion protection. Eliminate all sources of ignition.

7 Handling and storage

7.1 Handling
Precautions for safe handling:
Avoid dust formation.
Precautions against fire and explosion:
Observe the general rules for fire prevention. Avoid dust deposit, remove dust regularly. Take precautionary measures against electrostatic charging. Take precautionary measures against dust explosion.

7.2 Storage
Conditions for storage rooms and vessels:
Observe precautionary measures against dust explosion.
Further information for storage:
Keep container 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: recommended .

8.2 Associate substances with specific control parameters such as limit values
Maximum airborne concentrations at the workplace:

CAS No.	Material	Type	mg/m³	ppm	Dust fract.
	Particulates not otherwise classified	OSHA PEL	15.0		Inhalable dust
	Particulates not otherwise classified	OSHA PEL	5.0		Respirable dust
	Particulates not otherwise classified	ACGIH TWA	10.0		Inhalable dust
	Particulates not otherwise classified	ACGIH TWA	3.0		Respirable dust

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:
Recommendation in case of dust formation: Use a NIOSH approved respirator for: nuisance dust .
Hand protection:
not necessary
Eye protection:
chemical safety goggles

Other protective clothing or equipment:
Recommendation in case of dust formation: antistatic clothing and shoes .

8.4 General hygiene and protection measures:
Do not get in eyes. Avoid breathing 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**

Flash point	not applicable
Ignition temperature	no data at hand
Lower explosion limit (LEL)	60 g/m³
Upper explosion limit (UEL)	not determined
Bulk density	approx. 500 kg/m³
Water solubility / miscibility	145 g/l at 25 °C (77 °F)
pH-Value	not applicable
Viscosity (dynamic)	not applicable

9.3 Further information

Median value	33 µm
disturbed dust	
Dust explosion class	1
Kst value	173 m*bar/sec
Maximum explosion pressure	9.9 bar
Ignition temperature	440 °C (824 °F)
Minimum ignition energy	60 - 150 mJ with induction
deposited dust	
Burning behavior	5 at 100 °C (212 °F)
Burning behavior	5 at 20 °C (68 °F)

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:
oxidizing agents .

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.

11 Toxicological information

11.1 General information:
Toxicological testing has been conducted with this material.

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

Exposition	Value/value range	Species	Source
oral	> 10000 mg/kg	rat	literature

Primary irritation:

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

Sensitization:

Exposition	Effect	Test method	Species	Source
to skin	not sensitizing		guinea-pig	test report

Subacute to chronic toxicity:

Species	Test method	End point	Value	Source
rat	Repeated Dose 28-day Oral Toxicity Study in Rodents	NOEL	4000 mg/kg/d	test report

Reference points for mutagenic (carcinogenic) potential:

Test system	Effect	Source
Mammalian Erythrocyte Micronucleus Test	not mutagenic	test report
Bacterial Reverse Mutation Test	not mutagenic	test report

Experience with man:

-

12 Ecological information

12.1 Information on elimination (persistence and degradability)

Biodegradation / further information:
Evaluation in analogy to a tested product: Readily biologically degradable.

Further information:

-

12.2 Behaviour in environmental compartments

Mobility

-

Further information:
Bioaccumulation is not expected to occur. log POW <= 3.0

12.3 Ecotoxicological effects:

Species	Test method	Exp. time	Result	Source
Daphnia magna	acute	48 h	> 100 mg/l (EC50)	test report

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.

12.4 Additional information

Other harmful effects

-

General information:
Prevent material from entering surface waters and soil. Only introduce into water purification plants in diluted state. No environmental problems expected if handled and treated in accordance with standard industrial practices and local regulations where applicable.

13 Disposal considerations

13.1 Product disposal
Recommendation:
Dispose of according to regulations by incineration in a special waste incinerator. Small quantities may be disposed of by incineration in an approved facility. Observe local/state/federal regulations.

13.2 Packaging diposal

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.

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:
Immediate (acute) health hazard.

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:
This material contains no listed components.

New Jersey Right-to-Know Hazardous Substance List:
This material contains no listed components.

Pennsylvania Right-to-Know Hazardous Substance List:
This material contains no listed components.

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:
D2B

DSL Status:
This material or one or more of its components is not listed on the Canadian Domestic Substances List. However, the material or some of it's components are listed on the NDSL (Non-Domestic Substances List).

Non-DSL Chemicals:

CAS No.	Chemical	Upper limit wt. %
10016-20-3	Cyclohexaamylose	98.0

Canadian Ingredient Disclosure List:
This material contains no listed components.

15.4 Other international regulations

EU Hazard Symbols:

	Xi	Irritant

EU Risk Phrases:

R-Phrase	Description
R36	Irritating to eyes.

EU Safety Phrases:

S-Phrase	Description
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Details of international registration status
Listed on the following inventories:
IECSC - China
PICCS - Philippines
ENCS - Japan
ECL - Korea
EINECS - Europe
AICS - Australia
HSNO - New Zealand

16 Other information

16.1 Additional information:
Kosher: Yes

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 Limit
ppm - 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	**Common name**
ASTM D56	Tagliabue (Tag) closed cup
ASTM D92, DIN 51376, ISO 2592	Cleveland open cup
ASTM D93, DIN 51758, ISO 2719	Pensky-Martens closed cup
ASTM D3278, DIN 55680, ISO 3679	Setaflash or Rapid closed cup
DIN 51755	Abel-Pensky closed cup

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)