



MATERIAL SAFETY DATA SHEET

according to EC Directive 2001/58/EC

ACTIVATED ALUMINA

(Activated and Amorphous)

Revision Number 2,
October 14, 2004

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product code: 149

Product name	Activated Alumina (Activated and Amorphous)
Synonyms	Active bed supports, CG-20, CPA Series, CPN, CSS Series, D-410, DD-2, DD-420, DD-422, DD-431, DD-440, DD-447, DD-450, DD-460, DD-470, DD-6, DD-PG, DF Series, F-2xx Series, F-200, F-220, HF-200, LA Series, LD-5, LD-350, PSD-350, S-100, S-400, S-431, SAS Gamma Spheres, Selexsorb(R) Si, SRU, TG-431
Manufacturer, importer, supplier	Almatis GmbH Olof-Palme-Strasse 37 60439 Frankfurt am Main Germany Almatis AC, Inc. 3502 Riverview Drive Port Allen, LA 70767 USA Almatis AC, Inc. 109 Highway 131 Vidalia, LA 71373 USA
Emergency telephone number	CHEMTREC: +1-703-527-3887 +1-800-424-9300 Almatis: 501-776-4677
Use of the Substance/Preparation	Adsorbent Drier/Catalyst Preparation of catalysts
Additional information available from:	www.almatis.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% Weight	EINECCS - European Union*
1333-84-2	Aluminium oxide (Al ₂ O ₃), hydrate	95-99	N/A

* EINECCS - European Union - European inventory of Existing Commercial Chemical Substances (EINECCS)

3. HAZARDS IDENTIFICATION

Emergency Overview:	
Non-combustible	
Eye contact	Contact with eyes may cause irritation
Skin contact	May cause eye/skin irritation
Inhalation	May cause irritation of respiratory tract
Ingestion	Ingestion may cause irritation to mucous membranes
Aggravated Medical Conditions	- Asthma - Lung irritation - Dermatitis
Classification	Not dangerous

Canadian Hazard Symbol: Not applicable

4. FIRST AID MEASURES

General advice	• Show this safety data sheet to the doctor in attendance
Skin contact	• Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes • If skin irritation persists, call a physician
Eye contact	• Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes • If symptoms persist, call a physician
Inhalation	• Move to fresh air • If breathing is difficult, give oxygen • If not breathing, give artificial respiration • Consult a physician if necessary
Ingestion	• Clean mouth with water and afterwards drink plenty of water • Never give anything by mouth to an unconscious person • Do not induce vomiting without medical advice • Consult a physician

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	• The product itself does not burn • Use extinguishing measures that are appropriate to local circumstances and the surrounding environment
Special protective equipment for firefighters	• Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	• Wear personal protective equipment • Avoid dust formation
Environmental precautions	• No special environmental precautions required
Methods for cleaning up	• Take up mechanically and collect in suitable container for disposal

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions	• No special handling advice required
Safe handling advice	• Avoid dust formation in confined areas

Storage

Technical measures/Precautions	• Keep in a dry place
Incompatible products	• No information available
Specific use(s)	• None

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CAS	Chemical Name	% Weight	OSHA*	ACGIH*	MEL*	GREL - Germany (DFG) - Recommended Exposure Limits*
1333-84-2	Aluminium oxide (Al ₂ O ₃), hydrate	95-99	N/A	N/A	N/A	N/A

* OSHA - Final PELs - Time Weighted Averages (TWAs)

* ACGIH - Occupational Exposure Limits - TWAs

* MEL - United Kingdom - Maximum Exposure Limits - (STELs)

* GREL - Germany (DFG) - Recommended Exposure Limits - MAK Values

Exposure Limit Values

Personal protective equipment

Respiratory protection	- In case of insufficient ventilation, wear suitable respiratory equipment - When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Hand protection	Wear suitable protective gloves
Eye protection	- Tightly fitting safety goggles - Safety glasses with side-shields
Skin and body protection	No special protective equipment required
Hygiene measures	- When using, do not eat, drink or smoke - Regular cleaning of equipment, work area and clothing
Environmental exposure controls	No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form	- Powder - Balls - Granules - Pellets
Colour	Off-white
Odour	None

Important Health Safety and Environmental Information

Melting Point/Range	2,050°C
Boiling point/range	Not determined
Flash point	Not applicable
Autoignition temperature	Does not ignite
Risk of explosion	Not applicable
Density	Not determined
Bulk density	620-830 kg/m ³
Water solubility	Insoluble
pH	9.40 to 10.10
Solubility in other solvents	Insoluble
Vapour density	No information available.

10. STABILITY AND REACTIVITY

Stability	- Stable under normal conditions - Hazardous polymerisation does not occur
Conditions to avoid	No decomposition if stored and applied as directed
Materials to avoid	No information available
Hazardous decomposition products	Not applicable
Polymerization	Hazardous polymerisation does not occur
Reactions	Heating occurs when water is added

11. TOXICOLOGICAL INFORMATION

Local effects

Skin irritation	May cause skin irritation and/or dermatitis.
Eye irritation	Contact with eyes may cause irritation.
Inhalation	May cause irritation of respiratory tract.
Ingestion	Ingestion may cause irritation to mucous membranes.
Additional advice	The following toxicological data shown are those obtained from tests on products of similar composition (in accordance with EC-Directive 1999/45/EC): No information available

Long term Effects

Skin contact	No information available
Eye contact	No information available
Inhalation	No information available
Ingestion	No information available
Additional advice	

12. ECOLOGICAL INFORMATION

Additional ecological information	No information available.
Ecotoxicity effects	Not water endangering

CAS	Chemical Name	% Weight	WGK
1333-84-2	Aluminium oxide (Al ₂ O ₃), hydrate	95-99	N/A

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken for local recycling, recovery or waste disposal.
Further information	Can be landfilled, when in compliance with local regulations.

European Waste Catalogue

Substrates
16 - WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 03 - off-specification batches and unused products

14. TRANSPORT INFORMATION

DOT	Not regulated
ADR	Not regulated

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RID	Not regulated
IATA-DGR	Not regulated
ICAO	Not regulated
Further information	Not regulated

15. REGULATORY INFORMATION

The preparation is non-dangerous in accordance with Directive 1999/45/EC

Contains	Not applicable
Labelling	Not applicable
Indication of danger	Not dangerous
R-phrases(s)	Not applicable
S-phrases(s)	Not applicable

U.S. Inventories

CAS	Chemical Name	% Weight	TSCA*	CERCLA/SARA*	NJRTK*	MRTKL*	PRTK*
1333-84-2	Aluminium oxide (Al ₂ O ₃), hydrate	95-99	N/A	N/A	N/A	N/A	N/A

* TSCA - United States - Section 8 (b) Inventory (TSCA)

* CERCLA/SARA - Hazardous Substances and their Reportable Quantities

* NJRTK - New Jersey - Department of Health RTK List

* MRTKL - Massachusetts - Right To Know List

* PRTK - Pennsylvania - RTK (Right to Know) List

International Inventories

CAS	Chemical Name	% Weight	AICS - Australia*	EINECS*	ENCS*	TSCA*	DSL - Canada*	Inventor y*
1333-84-2	Aluminium oxide (Al ₂ O ₃), hydrate	95-99	Present	N/A	1-23	N/A	N/A	Present

* AICS - Australia - Inventory of Chemical Substances (AICS)

* EINECS - EINECS

* ENCS - Japan Existing and New Chemical Substances (ENCS)

* TSCA - (Toxic Substances Control Act) - Export Notification

* DSL - Canada - Domestic Substances List (DSL)

* Inventory - China

16. OTHER INFORMATION

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Literary reference

Other information

ACGIH - American Conference of Governmental Industrial Hygienist
AICS - Australian Inventory of Chemical Substances
CAS - Chemical Abstract Services
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CFR - Code of Federal Regulation
CPR - Cardio-pulmonary Resuscitation
DOT - Department of Transportation

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DSL - Domestic Substances List (Canada)
EINECS - European Inventory of Existing Commercial Chemical Substances
ENCS - Japan - Existing and New Chemical Substances
EWC - European Waste Catalogue
IARC - International Agency for Research on Cancer
LC - Lethal Concentration
LD - Lethal Dose
MAK - Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
N/A - Not Available or Not Applicable
NDSL - Non - Domestic Substances List (Canada)
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OEL - Occupational Exposure Limit
OSHA - Occupational Safety and Health Administration
PIN - Product Identification Number
RCRA - Resources Conservation and Recovery Act
SARA - Superfund Amendments and Reauthorization Act
STEL - Short Term Exposure Limit
TDG - Transportation of Dangerous Goods
TLV - Threshold Limit Value
TCLP - Toxic Chemicals Leachate Program
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
WGK - Water Hazard Class (Wassergefährungsklasse)
WHMIS - Workplace Hazardous Materials Information System

End of Safety Data Sheet