SUMITOMO CHEMICAL Co., Ltd.

MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product name:
Aluminium Oxide

Synonyms, Trade Names:
Alumina

INTENDED USE:
Ceramics, Glass, Fillers, Industrial applications, etc.

COMPANY NAME:
SUMITOMO CHEMICAL COMPANY, LIMITED
104-8260
Shinkawa 2-chome, Chuo-ku ,Tokyo, Japan
Contact Department / Section:
Inorganic Materials Division
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Europe, Middle East, Africa, Israel (Europe and English Language speaking countries):
+44 (0) 1235 239 670

2 HAZARDS IDENTIFICATION

The product has been classified according to the legislation in force.

Regulation (EC) No. 1272/2008:

Label element

Pictograms or symbols There is no pictogram that corresponds to the GHS classification.

Signal words: There is no signal words that corresponds to the GHS classification

Hazard Statement(s): There is no hazard statement that corresponds to the GHS classification

Precautionary statements: There is no precautionary statemant that corresponds to the GHS classification

3 COMPOSITION / INFORMATION ON INGREDIENTS

General information: This material is a single component

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	Notes
Aluminium Oxide	>99.0%	1344-28-1	215-691-6		Al_2O_3

4 FIRST AID MEASURES

General: The material is not hazardous under standard handling conditions. While, the recommendations described in the following sections should be noted for safer handling.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Administer oxygen if breathing is difficult.
Apply artificial respiration if victim is not breathing.
Rinse nose, mouth and throat with water.
Keep victim warm with a blanket etc.
Get immediate medical advice/attention.
If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Eye contact: Do not rub eye. Hold eyelids apart.
Begin to rinse with water as soon as possible and rinse cautiously for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.

Skin contact: Remove/take off immediately contaminated clothing and shoes.
Gently wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

Ingestion: Rinse mouth.
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Keep victim warm with a blanket etc.
Get immediate medical advice/attention.
If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Administer oxygen if breathing is difficult.
Apply artificial respiration if victim is not breathing.

Notes to the physician: No data available

5 FIRE-FIGHTING MEASURES

Extinguishing media	Use appropriate extinguishers for surrounding fire.
Inappropriate extinguishing media	None
Specific hazards	Non-combustible. Dust may be contained into smoke or fume of surrounding fire. Runoff and fire-control water may pollute waters.
Special firefighting procedures	If possible, fight fire from protected position. Keep upwind. Keep unauthorized personnel away. If possible, remove containers exposed to heat or cool with water. Do not scatter spilled material with high pressure water streams. Dike fire water for later disposal; do not spread the material. Do not get water inside container or in contact with the material.
Protection of firefighters	Wear regional, national, local standards approved fire fighting turnout gear and positive pressure self-contained breathing apparatus (SCBA).

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protection recommended in "8. Exposure control/personal protection". Isolate spill or leak area for proper distance in all directions. Keep upwind. Provide adequate ventilation. Keep all unauthorized personnel upwind away.
Environmental precautions	Prevent entry spilled material and runoff from spillage control into waterways, sewers, basements or confined areas. Avoid release to the environment.
Collection, neutralization	Stop leak if possible without risk. Collect scattered product into sealable containers. Moist substance at first to prevent scattering if appropriate. Collect remaining dust and transfer from danger area for later disposal. See "13. Disposal considerations".

7 HANDLING AND STORAGE

Handling

Technical measures	Ventilate by appropriate method. See “8. Exposure control/personal protection.”. Install appropriate equipment and wear appropriate protective clothing. See “8. Exposure control/personal protection.”.
Precautions for safe handling	Use only outdoors or in a well-ventilated area. Keep upwind for handling outdoors as much as possible. Keep unauthorized personnel away. Eliminate all ignition sources. Avoid contact with skin, eyes or clothing.
Avoidance of contact	Wash hands and face thoroughly after handling. Eating, drinking and smoking in work areas is prohibited.

Storage

Proper storage conditions	Keep away from direct sunlight and store in a cool, dry, dark place. Store in a well-ventilated place. Close container tightly.
Technical measures	Store away from incompatible substances. Avoid to get wet with water.
Incompatible substances	See “10. Stability and reactivity”.
Safe packaging materials	Pack in air-tight break-proof containers.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control levels	Not established.
Permissible exposure levels (threshold limit value, *biological* exposure indices)	
ACGIH (2010 ed.)	[Aluminium metal and insoluble compounds, as Al] (respirable fraction) 1 mg/m^3 (TWA)
Engineering measures	Use closed system and equipment, or local and/or general exhaust to maintain product dust concentrations in air below occupational exposure standards. Wear personal protective equipment (PPE) for handling the product. Wear positive pressure self-contained breathing apparatus (SCBA) in circumstance above occupational exposure standards including emergency procedures and cleaning for accidental release. Personal protective equipment (PPE) should be chosen according to specific regulatory requirements. Maintain eye wash fountain and quick-drench facilities in work area.

Protective equipment

Respiratory system protection	Breathing protective equipment should be chosen according to specific regulatory requirements. Wear positive pressure self-contained breathing apparatus (SCBA) in an emergency (e.g. unavailability of adequate ventilation, generation of mist or aerosol), and in emergency procedures and cleaning for accidental release.
Hand protection	Hand protective equipment should be chosen according to specific regulatory requirements. Impervious gloves for handling powder and dust.
Eye protection	Eye protective equipment should be chosen according to specific regulatory requirements. Chemical safety goggles.

Skin and body protection	Suitable impervious protective clothing、including protective footwear, gloves, lab coat, apron or coveralls.
Hygiene measures	Do not eat, drink or smoke during work. Wash thoroughly after handling and before eating or drinking.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, form, colour, etc.)	Spherical white solid (白色球状の固体)
Odour	Odourless
pH	No data available.
Melting point and freezing point	2072 deg. *C*
Boiling point, initial boiling point and boiling range	2980 deg. C
Flash point	Non-combustible
Combustion or explosive range	None
Vapour pressure	0,1 kPa/2158 deg.C
Vapour density	No data available.
Specific gravity (density)	(Specific gravity) 3,97 (20/4) (α-alumina)
Solubility in solvents	Insoluble in water. Does not react with acids and alkalis. Insoluble in non-polar organic solvents.
Octanol-water partition coefficient	No data available.
Auto-ignition point	Not combustible
Decomposition temperature	No data available.
Other data	No data available.

10 STABILITY AND REACTIVITY

Stability	Stable at normal ambient temperature and pressure.
Possibility of hazardous reactions	Contact with halocarbon vapours at above 200 deg. C may produce hydrogen chloride, phosgene, etc. Reaction with oxygen difluoride will be exothermic, and may be explosive under appropriate conditions. No hazardous polymerization
Conditions to avoid	Generation and diffusion of dust.
Incompatible materials	Halocarbons Vinyl acetate vapour, oxygen difluoride
Hazardous decomposition products	None

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Oral:	Rat LD50 >2000mg/kg (male/female)
Dermal:	No data available
Inhalation - gas:	Not applicable
Inhalation - dust and mist:	Rat LC50>2.3mg/L
Inhalation - vapour:	No data available
Skin corrosion/irritation:	Not irritant (Rabbit)
Serious eye damage/eye irritation:	Not irritant (Rabbit)
Respiratory sensitizer	No data available
Skin sensitizer:	Not sensitizing (Guinea pig)

Germ cell mutagenicity:

In vitro	No data avilable
In vivo	Negative (See CSR)

Carcinogenicity:	ACGIH: A4: Not classifiable as Human carcinogen IARC: Not listed
Reproductive Toxicity:	No data available
Specific target organ toxicity following single exposure:	No data available
Specific target organ toxicity following repeated exposure:	Lung fibrosis (Human epidemiological information) (At high dose)
Aspiration hazard:	No data available
Other Effects:	No data available

12 ECOLOGICAL INFORMATION

Acute toxicity:

Fish:	See CSR
Aquatic invertebrates:	See CSR
Toxicity to Aquatic Plants:	See CSR

Chronic Toxicity:

Fish:	See CSR
Aquatic invertebrates:	See CSR

Toxicity to Aquatic Plants: See CSR

Persistence and Degradability: Not relevant

Bioaccumulation Potential: No data available

Mobility: No data available

Ozone depletion potential: No listed as substance that deplete the ozon layer on EC/2037/2000.

13 DISPOSAL CONSIDERATIONS

General information:

Disposal Methods: Comply with the applicable laws and regulations regarding this product in each country.

European Waste Codes: Not applicable

14 TRANSPORT INFORMATION

IMDG - International Maritime Dangerous Goods Code

UN-number	Not applicable
Proper Shipping Name	-
Class	-
Packing group	-
Label(s)	-
Subsidiary risk label	-
Marine Pollutant	-
EmS No.	-

IATA

UN-number	Not applicable
Proper Shipping Name	-
Class	-
Packing group	-
Label(s)	-
Subsidiary risk label	-

ADR

Proper Shipping Name	Not applicable
Class	-
Classification Code	-
Hazard Identification No.	-
Special provisions	-

15 REGULATORY INFORMATION

Regulatory Status and Applicable Laws and Regulations:

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC):

Chemical name	CAS-No.	Concentration
Aluminium oxide	1344-28-1	>99.0%

Additional regulations: Observe in addition any national regulations

16 OTHER INFORMATION

Wording of Risk phrases:

【Alumina】

A－26	A－26M	A－21	A－25	A－24	A－21 (WF)
A－21D	A－21（GL）	H－20	A－21P	A－21N	A－20B
A－21F2I	A－20	A－21X	A－21XB	A－21XA	A－20S
AC－21	AC－21B	AC－21B（Ⅱ）	AR－22	AM－28B	AM－29B
AM－30B	AM－28BK	AM－29BK	AM－21G	AM－71A	AM－71B
CTS－FG	AM－21C	AM－27－02	AM－35B	AM－60	AM－21－04
AM－21A	AM－21	AM－22	AM－21CR	AM－25	AM－26
AM－27	AM－315	AM－21－02	H－19	AMS－5	AMS－9
AMS－12	AMS－2	AMS－9D	ACM－27	AMS－9B	AMS－5－02
AMS－502C	AMS－502D	AMS－502G	AMS－502F	AM－21S	A－21FM
A－21FM2	A－26C	A－26CNS	AM－21（K）	AL－40	ACL－27
AL－43A	AL－41－01	AL－42	AL－43－01	AL－44	AL－41－02
AL－43－02	ARL－41	AL－43ML－2	AL－43ML－3	A－21S	AL－41E
AC－21C	AL－M42E	AL－44M	ALM－41－01	ALM－42－01	ALM－43
AL－41M	ALM－41T	ALM－42－02	ACLM－27	AL－43M	ALM－41－06
ALM－44	ALM－44－01	ARLM－41	AL－41DBM－01	AL－41DBM－02	AL－D43A
AL－M41D	AL－S11A	AL－S11B	AL－M41P	AL－M73A	AL－M41A
AL－M41B	AL－M43B	AL－33	AL－32B	EA－1	EA－3
EA－10	AES－12B	AES－12－02	AES－12	AES－12K	AES－11
AES－11C	AES－21	AES－22S	AES－11E	AES－11F	AES－23
AL－7	AL－7B	AL－7C	P－10	AM－21GK	AM－21KC
AL－31－03	AL－31B	AES－41	AES－11H	AL－S43A	AL－S43B
Harimic 25	Harimic５０	Harimic A35-01	HIT－50	HIT－55	HIT－60A
HIT－80	HIT－82	HIT－100	HIT－102	HIT－5010	HIT－70
ACM－27B	A－260	A－210	A－210GL	H－200	A－200
AC－210B	AM－280B	AM－290B	AM－280BK	AM－290BK	AM－210G
AM－210K	AM－210	AM－220	AM－210CR	AM－210-02	AM－710B
AMS－5020F	AMS－5020G	A－260L	AM－22A	A－210(WF)	

【Gamma Alumina】

A－11	AC－11	AC－12	AC－12R	KC－501	KCG－30

【Activated Alumina（Spherical）】

FD－24	KHA－24	KHA－46	KHD－12	KHD－24	KHD－46
KHO－24	KHO－46	KHS－24	NKHD－24	NKHD－24HD	NKHD－46
NKHD－46HD	NKHO－24	NKHO－46			

【Hydraulic alumina】

BK－112					

【High purity alumina】

AKP－15	AKP－18	AKP－20	AKP－200	AKP－28	AKP－30
AKP－46	AKP－48	AKP－50	AKP－53	AKP－3000	AKQ－10

CAH－3000	CAH－G00	AKP－5N	AKX－5	AKP－22	

【Advanced alumina】

AA－03	AA－04	AA－05	AA－07	AA－1.5	AA－2
AA－3	AA－5	AA－18			

Inventory Status

EU EINECS List:	215-691-6
EU ELINCS List:	-
EU No Longer Polymers List:	-
US TSCA Inventory:	Listed (Aluminum oxide Al2O3)

OTHER INFORMATION:

Disclaimer: This data sheet is based on currently available documents, information, and data, and does not provide definitive information on any of the contents, physicochemical properties, hazards, toxicity, or other details of the product. In addition, the precautions given in this document are based on ordinary handling. In special handling situations, implement safety measures suitable to the purpose and usage.

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