



SAFETY DATA SHEET

SDS No. : 30402US
 Revision : 1
 Prepared Date : 29/03/2019

1. Identification

GHS product identifier : CHIRAL ART Amylose-C, CHIRAL ART Amylose-C Neo, CHIRAL ART Amylose-SA
 CHIRAL ART Cellulose-C, CHIRAL ART Cellulose-SB, CHIRAL ART Cellulose-SC,
 CHIRAL ART Cellulose-SJ

Chemical name : Silica gel chemically bonded with phase ligands
 (organic materials: up to 30%)

CAS number : Not available.

Other means of identification : -

Product use : Packing for Liquid Chromatography.

Supplier's details : YMC America, Inc.

941 Marcon Blvd., Suite 201
 Allentown, PA 18109
 U.S.A.
 TEL: +1-610-266-8650

e-mail address of person responsible for this SDS : sales@ymc.co.jp

Emergency telephone number (with hours of operation) : +1-610-266-8650 (9:00-17:00 EST)

2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

3. Composition/Information on ingredients

Substance/mixture : Substance

Chemical name : Silica gel chemically bonded with phase ligands
 (organic materials: up to 30%)

Other means of identification : -

CAS number/other identifiers

CAS number : Not available.

Ingredient name	%	CAS number
Silica gel chemically bonded with phase ligands (organic materials: up to ca. 30%)	100	7631-86-9 (SiO ₂)

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. First aid measures**Description of necessary first aid measures**

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed**Potential acute health effects**

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

5. Fire-fighting measures**Extinguishing media**

Suitable extinguishing media : Use dry chemical powder. Non-combustible. Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Non-combustible.

Remark (Explosibility) : Not considered to be a product presenting a risk of explosion. When you handle this silica with low electro conductive materials, the material may highly be charged with electricity.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training.
Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing dust. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage**Precautions for safe handling**

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials(see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use.
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

8. Exposure controls/personal protection**Control parameters****Occupational exposure limits**

Ingredient name	Exposure limits
silicon dioxide	NIOSH REL (United States, 10/2016). TWA: 6 mg/m ³ 10 hours.

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing.
Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification.
Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Recommended: Ensure an MSHA/NIOSH-approved respirator or equivalent is used.

9. Physical and chemical properties**Appearance**

Physical state	: Solid. [Powder.]
Color	: White.
Odor	: Odorless.
Odor threshold	: Not applicable.
pH	: 5 to 8 [Conc. (% w/w): 10%]
Melting point	: 1726°C (3138.8°F)
Boiling point	: 2230°C (4046°F)
Flash point	: Not available.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Non-combustible.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: Not available.

Density	: 0.2 to 0.6 g/cm³										
Solubility	: Not available.										
Solubility in water	: 120 ppm										
Partition coefficient: n-octanol/ water	: Not available.										
Auto-ignition temperature	: Not available.										
Decomposition temperature	: Not available.										
Viscosity	: Not available.										
Explosive properties	: Not considered to be a product presenting a risk of explosion.										
Oxidizing properties	: No oxidizing ingredients present.										
10. Stability and reactivity											
Reactivity	: No specific test data related to reactivity available for this product or its ingredients.										
Chemical stability	: The product is stable.										
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.										
Conditions to avoid	: No specific data.										
Incompatible materials	: No specific data. molten alkalis hydrofluoric acid										
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.										
11. Toxicological information											
Information on toxicological effects											
Acute toxicity											
<table><tr><th>Product/ingredient name</th><th>Result</th><th>Species</th><th>Dose</th><th>Exposure</th></tr><tr><td>silicon dioxide</td><td>LD50 Oral</td><td>Rat</td><td>>5000 mg/kg</td><td>-</td></tr></table>	Product/ingredient name	Result	Species	Dose	Exposure	silicon dioxide	LD50 Oral	Rat	>5000 mg/kg	-	
Product/ingredient name	Result	Species	Dose	Exposure							
silicon dioxide	LD50 Oral	Rat	>5000 mg/kg	-							
Conclusion/Summary	: Based on available data, the classification criteria are not met.										
Irritation/Corrosion											
Conclusion/Summary	: Not available.										
Sensitization											
Conclusion/Summary	: Not available.										
Mutagenicity											
Conclusion/Summary	: Not available.										
Carcinogenicity											
Conclusion/Summary	: No known significant effects or critical hazards.										
Classification											
<table><tr><th>Product/ingredient name</th><th>OSHA</th><th>IARC</th><th>NTP</th></tr><tr><td>silicon dioxide</td><td>-</td><td>3</td><td>-</td></tr></table>	Product/ingredient name	OSHA	IARC	NTP	silicon dioxide	-	3	-			
Product/ingredient name	OSHA	IARC	NTP								
silicon dioxide	-	3	-								
Reproductive toxicity											
Conclusion/Summary	: Not available.										
Teratogenicity											
Conclusion/Summary	: Not available.										
Specific target organ toxicity (single exposure)											
Not available.											
Specific target organ toxicity (repeated exposure)											
Not available.											
Aspiration hazard											
Not available.											

Information on the likely routes of exposure	:	Not available.
<u>Potential acute health effects</u>		
Eye contact	:	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
Inhalation	:	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact	:	No known significant effects or critical hazards.
Ingestion	:	No known significant effects or critical hazards.
<u>Symptoms related to the physical, chemical and toxicological characteristics</u>		
Eye contact	:	Adverse symptoms may include the following: irritation redness
Inhalation	:	Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact	:	No specific data.
Ingestion	:	No specific data.
<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u>		
<u>Short term exposure</u>		
Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
<u>Long term exposure</u>		
Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
<u>Potential chronic health effects</u>		
Not available.		
Conclusion/Summary	:	Not available.
General	:	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.
<u>Numerical measures of toxicity</u>		
<u>Acute toxicity estimates</u>		
Not available.		
12. Ecological information		
<u>Toxicity</u>		
Conclusion/Summary	:	Not available.
<u>Persistence and degradability</u>		
Conclusion/Summary	:	Not available.
<u>Bioaccumulative potential</u>		
Not available.		
<u>Mobility in soil</u>		
Soil/water partition coefficient (K_{oc})	:	Not available.
Mobility	:	Not available.
Other adverse effects	:	No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Label						
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	Marine Pollutant: No	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304**Composition/information on ingredients**

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

Name	%	Classification
silicon dioxide	100	COMBUSTIBLE DUSTS

State regulations

Massachusetts : The following components are listed: DIATOMACEOUS EARTH; AMORPHOUS SILICA

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : The following components are listed: SILICA

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	All components are listed or exempted.
Canada	:	All components are listed or exempted.
China	:	All components are listed or exempted.
Europe	:	All components are listed or exempted.
Japan	:	Japan inventory (ENCS): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.
Malaysia	:	All components are listed or exempted.
New Zealand	:	All components are listed or exempted.
Philippines	:	All components are listed or exempted.
Republic of Korea	:	All components are listed or exempted.
Taiwan	:	All components are listed or exempted.
Turkey	:	All components are listed or exempted.
United States	:	All components are listed or exempted. For research and development use only by technically qualified individually under section 5(h)(3) of the Toxic Substances Control Act (TSCA). Restrictions on use: This product may not be used for commercial purposes or in formulations used for commercial purposes.

16. Other information**National Fire Protection Association (U.S.A.)**

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
Not classified.	

History

Date of printing	:	29/03/2019
Date of issue/Date of revision	:	29/03/2019
Date of previous issue	:	No previous validation
Version	:	1

Key to abbreviations

: ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
DOT = Department of Transportation
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
TDG = Transportation of Dangerous Goods
UN = United Nations

References

: Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.