



SHOWA DENKO K.K.

GPS/JIPS Safety Summary

1. SUBSTANCE NAME

Poly(sodium)acrylate (CAS No.: 9003-04-7)

2. GENERAL STATEMENT

The substance is a water-soluble polyacrylate polymer used mainly as a source material for medical, pharmaceutical (external preparations) and cosmetic products, and as an industrial-use thickening agent.

3. CHEMICAL IDENTITY

Item	Description
Chemical or generic name	Poly(sodium)acrylate
Product name	VISCOMATE® F-series
CAS No.	9003-04-7
Other Nos.	Japan: Chemical Substances Control Law (6)-901
Chemical formula	$-(\text{CH}_2\text{CHCOONa})_n-$
Structural formula	$\left(\begin{array}{c} \text{CH} - \text{CH}_2 \\ \\ \text{COONa} \end{array} \right)_n$
Sources/references	Sections 3 of the SDS issued by SHOWA DENKO K.K.

4. USES AND APPLICATIONS

Main uses	Being hydrophilic, the substance is used as a thickening agent for various types of solutions. It is also used as an external agent, such as cosmetic cataplasms.
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5. PHYSICAL/CHEMICAL PROPERTIES

The substance is a white-colored odorless powder.

Appearance	Powder
Color	Colorless
Odor	Odorless
Melting point / Freezing point	No reliable data
Combustibility	No property has been found that induces dust explosion.
Auto-ignition temperature	No reliable data
Vapor pressure	No reliable data
Solubility in water	Turns into gel-form at 10% or more, disabling handling as a liquid.

Partition coefficient (n-octanol/water)	No reliable data
Sources/references	Section 9 of the SDS issued by SHOWA DENKO K.K.

6. HEALTH EFFECTS

Effect assessment	Results (GHS ^(Note 1) hazard classification)
Acute toxicity (oral)	Not classified ^(Note 2)
Acute toxicity (dermal)	Not classified
Acute toxicity (Inhalation : gases)	Not applicable ^(Note 3)
Acute toxicity (Inhalation : vapors)	Classification not possible ^(Note 4)
Acute toxicity (Inhalation : dusts and mists)	Classification not possible
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory sensitization	Classification not possible
Skin sensitization	Not classified
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Sources/references	Sections 2, 11 of the SDS issued by SHOWA DENKO K. K.

(Note 1) GHS (Globally Harmonized System of Classification and Labeling of Chemicals): It is a system for classifying chemicals according to type and hazard level, and for indicating label information pursuant to the globally unified rules for offering Safety Data Sheets.

(Note 2) Not classified: when the hazards are believed to be less than even the lowest hazard classification defined in the GHS.

(Note 3) Not applicable: when chemicals do not fall within the scope of classification because the physical properties defined in the GHS do not apply.

(Note 4) Classification not possible: when unable to classify due to a lack of sufficiently reliable data for defining the classification.

7. ENVIRONMENTAL EFFECTS

Effect assessment	Results (GHS hazard classification)
Hazardous to the aquatic environment	
Acute hazard	Classification not possible
Long-term hazard	Classification not possible
Hazardous to the ozone layer	Montreal Protocol on Substances that Deplete the Ozone Layer (revised version): not included in the list
Sources/references	Sections 2 of the SDS issued by SHOWA DENKO K.K.

Environmental fate/dynamics	Results
Mobility in soil	No reliable data available.
Persistence/degradability	Biodegradability is presumed to be low.
Bioaccumulation potential	No reliable data available.
Conclusion about PBT/vPvB	The criteria for persistent bioaccumulative and toxic (PBT; remaining persistently in the environment and possessing high bioaccumulation potential and toxicity) and very persistent and very bioaccumulative (vPvB; remaining very persistently in the environment and possessing very high bioaccumulation potential) chemicals are believed to inapplicable.
Sources/references	Section 12 of the SDS issued by SHOWA DENKO K.K.

8. EXPOSURE

	Exposure potentials through main uses
Occupational exposures	<p>When handling powders of the substance under normal temperatures, workers could be exposed through oral ingestion, contact with the skin, or inhalation if dust is generated during mixing/blending, measuring, packing, unpacking and other processes involving the substance. The substance could irritate respiratory tracts when its high-density dusts are inhaled, and could also affect the eyes and skin in the event of direct contact.</p> <p>There is the potential for exposure through oral, dermal or inhalation by workers engaged in maintenance, sampling, filling, and discharging tasks, and at times of equipment failure, in batch and other processes.</p>
Consumer exposures	Sodium polyacrylate is used as a source material for medical and pharmaceutical products (mainly external preparations) as well as cosmetic products, and an industrial thickening agent. The possibility that consumers could be exposed through oral, dermal or inhalation is believed to be low. However, respiratory tracts could be irritated if its high-density dusts are inhaled, and the eyes and skin could also be affected upon direct contact.
Environmental exposures	There is the potential for discharge of the substance mainly into the air and aquatic environment from the manufacturing and usage processes. Although environmental exposure is possible, no specific environmental effects have been observed as mentioned in Section 7 Environmental Effects.
Precautions	If there is the potential for exposure during use in other applications, please implement appropriate measures by referring to the risk management recommendations.

9. RISK MANAGEMENT RECOMMENDATIONS

	Risk management recommendations
Occupational exposures	<p>Technical measures</p> <p>Carry out exhaust ventilation in order to keep a concentration of the substance in the air below the exposure limit value. Install eyewash fountains and safety showers at manufacturing places where the product is stored or handled.</p>

	<p>Local exhaust and total ventilation</p> <p>It is required to manage and control an environmental concentration of the substance to keep it below the following recommended value by installing local ventilation and others at manufacturing places or places using the substance.</p>
	<p>Occupational exposure limits</p> <p>The Japan Society for Occupational Health published (in 2012) the recommended values as the occupational exposure limits of 2 mg/m³ for respirable dust and 8 mg/m³ for total dust (class 3 dusts). While the American Conference of Governmental Industrial Hygienists (ACGIH) published (in 2013) threshold limit values of 3 mg/m³ (time-weighted average; TLV-TWA) for respirable particle and 10 mg/m³ for inhalable particle. Implement management and control measures to keep its dust concentration below these values.</p>
	<p>Protective equipment</p> <p>While working, wear appropriate protective eyewears, dust-proof masks, clothes and protective gloves made of materials impermeable to powders.</p>
	<p>Precautions</p> <p>Managers responsible for processes should educate workers on the selection of appropriate protective gear, their proper usage and how to manage their working places.</p>
Consumer exposures	It is believed that end-products, which are commercially distributed, could not contain powders. However, if they do, take a precaution not to inhale carelessly their dusts and not to be largely exposed to their dusts on skin.
Environmental exposures	In order to prevent environmental exposures, implement preventive measures against leakage into rivers, water channels, and sewerage trenches, and pay attention to the daily management and handling of the substance.
Special instructions (emergency measures at times of leakage, etc.)	In the case that the substance is in powdery form, wear appropriate protective gear and collect the substance as powder by using a broom or vacuum cleaner. If the substance turns into a liquid with high viscosity after absorbing water, wear disposable rubber gloves and other protective gear when collecting it. Further, in the case of a liquid with low viscosity, wear protective gear and collect it by absorbing with a waste cloth or paper towel.
Sources/references	Sections 6, 7, 8, and 13 of the SDS issued by SHOWA DENKO K.K.

10. STATE AGENCY REVIEW

Hazard assessment	Situations of review
International Chemical Safety Cards	ICSC No:1429, http://www.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=1429

11. REGULATORY INFORMATION/ GHS CLASSIFICATION-LABELING INFORMATION**Regulatory information only in Japan**

Applicable laws	Regulatory situations
Food Sanitation Act	Foods additives
Pharmaceutical Affairs Act	<ul style="list-style-type: none"> •Source material for cosmetic products pursuant to Japanese Standards of Quasi-drug Ingredients •Additive to medical and pharmaceutical products pursuant to Japanese Pharmaceutical Excipients
UN No.	Not applied

GHS classification, label information

Hazards	Classification results (hazard information)
Physical chemical hazards	
Pyrophoric solids	Not classified
Self-heating substances and mixtures	Not classified
Substances and mixtures which, in contact with water, emit flammable gases	Not classified
Health hazards	
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Skin sensitization	Not classified
GHS label elements	
Pictogram or symbol	None
Signal word	None
Hazard statement	None

12. CONTACT INFORMATION

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13. DATE OF ISSUE AND REVISION, ADDITIONAL INFORMATION

Date of issue: September 30, 2013

Revisions:

Date of revision	Revised section	Revised item	Version

Special instructions: none

14. DISCLAIMER

This Safety Summary which is a translation of original Safety Summary prepared in Japanese, has been prepared as a part of the efforts by GPS/JIPS: Japan Initiative of Product Stewardship by the chemical industry. This Safety Summary is meant to provide an outline of information related to the safe handling of the subject substance rather than provide expert information regarding the risk assessment processes, the effect on human health or the environment, etc. Moreover it is not a replacement for the Safety Data Sheet (SDS), the Chemical Safety Report (CSR), or other risk assessment documents. To the greatest extent possible, the Safety Summary contains accurate statements based on laws, materials, information and other data available at the time of issue. However, it does not cover all such data. Additionally, it does not intend to provide a guarantee in any way.