

Safety Data Sheet

RESONAC

This safety datasheet complies with the requirements of Hazardous Substances (Safety Data Sheets) Notice 2017 (including amendments)

Version No: 3.0

Revision Date: 01/07/2023

SDS Number: SD-009NZ

SECTION 1: Product Identification

- 1.1 Product identifier**
Product name: Shodex STANDARD P-82
Synonyms: P-800, P-400, P-200, P-100, P-50, P-20, P-10, P-5
- 1.2 Other means of identification:**
Product code (SDS No): SD-009NZ
- 1.2 Recommended use of the chemical and restrictions on use:**
Recommended use(s): Calibration standard for size exclusion chromatography.
Restrictions on use: Uses other than those specified by the manufacturer.
- Manufacturer** Resonac Corporation.
Address Functional Chemicals Business Unit Specialty
Chemicals Department
Tokyo Shiodome Building, 1-9-1, Higashi-Shimbashi, Minato-ku, Tokyo 105-7325, Japan
Telephone +81-3-6263-8112
Email rec_shodex@resonac.com
- 1.5 Emergency phone number** +81-3-6402-5140 Available Monday to Friday 09:00 to 17:00 Japan Standard time
+81-44-322-6844 Available during out of office hours at night and on holidays Japan Standard Time) (Resonac Corporation. Kawasaki Office)

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
GHS Revision 7 (2017): Reproductive toxicity Category 1B, H360
Pre-2021 HSNO: Reproductive toxicity Category, 1.68A

2.2 Label elements



Hazard pictograms:

Signal word: Danger.

Hazard statements: H360: May damage fertility or the unborn child.

Precautionary statements:

Prevention: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P308 + P313: IF exposed or concerned: Get medical advice/attention.

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Storage: P405: Store locked up.
Disposal: P501: Dispose of contents/containers in accordance with local/state/federal regulations.

2.3 Other hazards which do not result in classification

None.

SECTION 3: Composition / information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Name	CAS Number	Weight % Content
Pullulan	9057-02-7	≥90
Methanol	67-56-1	<1
Water	7732-18-5	<10

SECTION 4: First-aid measures

4.1 Description of first aid measures

Inhalation: If a large amount of powder or dust is inhaled, remove victim to fresh air. If the victim is vomiting, turn the head to the side to prevent suffocation. Get medical advice/attention if needed.

Skin Contact: Wash off thoroughly with plenty of water and soap if needed. If skin irritation or rash occurs: Get medical advice/attention. Remove/Take off immediately all contaminated clothing.

Eye Contact: Immediately rinse with clean running water for several minutes (at least 15 minutes is recommended). Remove contact lenses if present and easy to do. To ensure thorough washing, open the eyelids to allow water flush all over the eyeball/lid. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: Rinse inside the mouth thoroughly with water and immediately get medical advice/attention. If possible, it is preferable to induce vomit by drinking plenty of water.

First Aider Protection: Wear personal protective equipment as detailed in Section 8 Exposure controls/personal protection. Respiratory protection may also be required in areas where ventilation is low or exposure to dust is possible.

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- 4.2 Most important symptoms and effects, both acute and delayed**
May damage fertility or the unborn child.
- 4.3 Indication of immediate medical attention and special treatment needed, if necessary.**
Treatment should be based on the judgement of the doctor in response to the symptoms of the patient.

SECTION 5: Fire-fighting measures

- 5.1 Extinguishing media**
Suitable Extinguishing Media Dry chemical, CO₂, alcohol-resistant foam or water spray (fog)

Unsuitable Extinguishing Media Avoid high pressure media which could cause the formation of potentially explosive dust-air mixture.
- 5.2 Special hazards arising from the substance or mixture**
High concentration of airborne dust in the presence of an ignition source may result in dust explosions.
- 5.3 Special protective equipment and precautions for fire fighters**
Fire-fighting personnel must wear approved self-contained breathing apparatus and full protective clothing as standard.
Evacuate personnel to a safe area.
Keep unauthorised personell away from fire.
Extinguish the fire from windward position.
Avoid raising dust.
Prevent fire-fighting water from entering environment.
If safe to do so, remove containers from the vicinity of the fire, for non-transferable keep cool with water spray (fog).

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**
Only allow authorized personnel in the area utilising the appropriate personal protective equipment. For details of protective equipment, see Section 8.
Immediately isolate spillage area.
Stop leak if safe to do so.
Avoid creating airborne dust.
Ensure adequate ventilation following completion of clean-up and containment procedures.
- 6.2 Environmental precautions**
Avoid release to the environment.
Prevent the product from entering into river, sewerage or drain system.
- 6.3 Methods and materials for containment and cleaning up**
For containment: Stop leakage if safe to do so.

For cleaning up: Carefully sweep scattered product into a suitable empty sealable container for disposal.
Wear protective equipment during containment/clean-up operations.
- 6.4 Reference to other sections**
For details on extinguishing media, see Section 5

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For details on personal protection, see Section 8.

For details disposal of waste from clean up operations, see Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Utilise engineering controls and wear protective gloves/protective clothing/eye protection/face protection as specified in "Section 8 Exposure controls/personal protection".

Handle product only in closed system or provide appropriate exhaust ventilation.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use explosion-proof equipment.

Prevent the build-up of electrostatic charge.

Avoid dust formation.

Do not breathe dust.

Do not get in eyes, on skin, or on clothing.

Avoid contact during pregnancy/while nursing.

Prevent shock/impact.

Wash contaminated clothing before reuse.

Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, well-ventilated place.

Keep away from heat.

Keep out of direct sunlight.

Proper grounding procedures to avoid static electricity should be followed.

Use explosion-proof electrical equipment, ventilation equipment, and lighting equipment.

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

8.1.1 Occupational exposure limits:

New Zealand WES: Methanol - 200ppm (262mg/m³) 8 hour
250ppm (328 mg/m³) ST; Skin absorption; Exposure can also be estimated by biological monitoring

8.1.2 Biological monitoring

New Zealand BEI:

EXPOSURE	DETERMINANT	SAMPLING TIME	BEI
Methanol	Methyl ethyl ketone (MEK) in urine	End of shift	15mg/litre

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Install local exhaust ventilation to keep the concentration of airborne dust below the recommended limits.

Install hand, eye wash facilities and safety shower near work area.

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8.2.2 Individual protection measures, such as personal protective equipment

Respiratory protection:	In case of inadequate ventilation or risk of inhalation of dust, use a suitable dust mask. Follow AS/NZS 1715 and AS/NZS 1716 on respiratory protective devices. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Eye/face protection:	Wear dust resistant protective glasses, chemical goggles or face protector. In accordance with the standards, AS/NZS 1336 and AS/NZS 1337 on selection of eye protection.
Skin protection (Hand protection/ Other):	Protective gloves are recommended when handling as described by standard, AS/NZS 2161 on occupational protective gloves where extensive skin contact is expected.
Skin and body protection:	Protective work clothing with long sleeves/working pants. In accordance with the standard AS/NZS 3765 on clothing.
Hygiene measures:	Wash the hands thoroughly after handling. Wash contaminated clothing before reuse. Do not eat, drink or smoke in the work area. Consult PPE manufactures concerning breakthrough times. Handle in accordance with good industrial hygiene and safety practice.

8.2.3 Environmental exposure controls

Do not allow to enter drains, sewers or watercourses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Solid (Powder).
Color	White.
Odor	Odorless.
Odor threshold (ppm)	No data available.
pH (Value)	No data available.
Melting point / freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point (°C)	>55°C(Estimate)
Evaporation rate	No data available.

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Flammability (solid, gas)	No data available.
Upper/lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Relative Density	No data available.
Solubility(ies)	Soluble in water.
Partition coefficient (n-Octanol/water)	both insoluble
Auto-ignition temperature	ca. 280°C
Decomposition temperature	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

9.2 Other information

No other information available.

SECTION 10: Stability and reactivity

10.1	Reactivity	Stable at general storage and handling conditions.
10.2	Chemical stability	The product is stable under normal use and storage conditions.
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to avoid	Overheating. Sparks. Open flame.
10.5	Incompatible materials	Oxidizing agents.
10.6	Hazardous decomposition products	No data available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

No data are available for the product therefore available data for the components of the product are provided below.

Acute toxicity

Acute oral toxicity

Pullulan
Methanol

Not classified.
Mouse LD50 >14.28 g/kg (Other companies SDS)
Rat LD50 6.2 - 13g/kg (ACGIH), 6200 mg/kg,
9100mg/kg (SIDS), Human LD 0.3 - 1g/kg (SIDS),
Human LD50 1400mg/kg (DFGMAK)

Acute dermal toxicity

Methanol

Not classified.
Rabbit LD50 15800mg/kg (DFGMAK), monkey LD 1600
- 4000mg/kg (SIDS)

Acute inhalation toxicity

Methanol (vapour)

Not classified.
Rat LC50 (8hr) >22500ppm (DFGMAK), monkey LC (1-
4hr) \geq 52mg/L, LC (18hr) \geq 13mg/L (SIDS)

ATEmix (oral) : 14700mg/kg
ATEmix (dermal) : no data available

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ATEmix (inhalation)	: no data available
Skin corrosion/irritation Methanol	Not classified. Rabbit, Skin irritation test (20 hours): No irritation (DFGMAK) Rabbit, Skin irritation test (24 hours): Moderate irritation (effects on delipidation) (DFGMAK)
Serious eye damage/irritation Methanol	Not classified. Rabbit, Eye irritation test (Draize test): Conjunctivitis, conjunctival edema (unknown whether these reactions recovered within 7 days) (EHC) Rabbit, Eye irritation test: Moderate irritation (EHC)
Respiratory sensitization	Classification not possible due to lack of data.
Skin sensitization Methanol	Not classified. Guinea pig, Skin sensitization test: Negative (EHC) Human patch test: Positive (It cannot be concluded that methanol caused sensitization) (DFGMAK)
Germ cell mutagenicity Pullulan	Not classified. S. typhimurium, Ames test: Negative (CCRIS) Bacillus subtilis, DNA damage repair assay: Positive (RTECS)
Methanol	Mouse, Chromosomal aberration test /Sister chromatid exchange assay /Micronucleus test (inhalation exposure): Negative (DFGMAK) Mouse, Micronucleus test (intraperitoneal administration): Negative (DFGMAK) S. typhimurium/E. coli, Ames test: Negative (DFGMAK)
Carcinogenicity Pullulan	Not classified. Rat 62 weeks Dietary administration test No toxicity NOAEL: (Male) >4450 mg/kg/day, (Female) >5080 mg/kg/day (CCRIS)
Methanol	Rat, Drinking-water administration test, 500 - 20000ppmv/v: Cancer in head and neck Blood Lymphatic system tumors (ACGIH) Rat /Mouse/monkey 18 or 24-month Inhalation exposure test, up to 1000ppm: No incidence of carcinoma (ACGIH)
Reproductive toxicity Methanol	Classified as Category 1B. May damage fertility or the unborn child. Pregnant mouse during organogenesis, Inhalation toxicity test: ≥ 6500 mg/m ³ ; Fetal resorption and exencephaly in offspring, fetal malformations (nerve and eye abnormalities, cleft palate, hydronephrosis, extremity abnormalities) (EHC) Rat on days 7 to 15 of gestation, Inhalation toxicity test: 26000 mg/m ³ ; Fetal malformations (excessive or

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rudimentary cervical ribs, urinary or cardiovascular abnormalities), NOAEL=6500 mg/m³ (EHC)

STOT - single exposure
Methanol

Not classified.
Human: Acute poisoning symptoms, suppression of the central nervous system, metabolic acidosis, visual disorder, visual loss, headache, vomiting, tachypnea, coma, etc., and occasionally, death (EHC)
Central nervous system disorder, necrosis of the cerebral white matter (EHC)
Mouse/Rat, Inhalation toxicity test: Anesthetic effects (EHC)

STOT - repeated exposure
Pullulan

Not classified.
Rat, 90-day oral toxicity test: No toxic effects (other company's SDS)
Rat, 14-month oral toxicity test: No toxic effects (other company's SDS)
Methanol
Human, Prolonged exposure, Low concentration: Widespread eye disorder (EHC)
Chronic toxic effects due to occupational exposure: Visual loss (ACGIH)
Chronic poisoned patients (vapour exposure): Conjunctivitis, headache, dizziness, insomnia, gastric disorder, bilateral visual loss (ACGIH)
Rat, Oral toxicity test: Hepatocellular hypertrophy, etc. (PATTY)

Aspiration hazard

Classification not possible due to lack of data

Target Organs:

None.

Information on the likely routes of exposure: Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

Acute (Immediate): No data available.

Chronic (Delayed): No data available.

Skin

Acute (Immediate): No data available.

Chronic (Delayed): No data available.

Eye

Acute (Immediate): No data available.

Chronic (Delayed): No data available.

Ingestion

Acute (Immediate): No data available.

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Chronic (Delayed):	No data available.
Interactive effects:	No data available.
Other information:	No other information available.

SECTION 12: Ecological information

12.1 Ecotoxicity

Product:

Hazardous to the aquatic environment - short term (acute) hazard : not classified

Hazardous to the aquatic environment - long term (chronic) hazard : not classified

Methanol

Fish (Bluegill) LC50 (96hr) 15400mg/L (SIDS)

Fish (Fathead minnow) LC50 (96hr) 28200mg/L (SIDS)

Crustacea (Brine shrimp) EC50 (96hr) 1340mg/L (EHC)

Crustacea (Brine shrimp) EC50 (24hr) 900.73mg/L (EHC)

12.2 Persistence and degradability

Pullulan

Readily biodegradable (Other companies SDS)

Methanol

Biodegradation test (2 weeks): Readily biodegradable
(Safety Assessment Data [METI])

12.3 Bioaccumulative potential

Methanol

BCF=0.01 - 0.51, 0.2 (predicted value) (EHC)

12.4 Mobility in soil

Methanol

Koc=1 (predicted value) (SIDS)

12.5 Other adverse effects

No additional data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Residual wastes

Dispose of the product in accordance with local/national/international laws or regulations.

13.1.2 Contaminated containers and packaging

Completely remove the contents prior to disposal of empty containers and packaging in accordance with local/national/international regulations.

SECTION 14: Transport information

14.1 UN number	Not applicable.
14.2 UN Proper Shipping Name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing Group	Not applicable.
14.5 Environmental hazards	Not applicable.
14.6 Special precautions for user	None.
14.7 Transport in bulk according to Annex II of	



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MARPOL73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the product

New Zealand regulations/legislation:

Hazardous Substances (Hazard Classification) Notice 2020
Consolidated Hazardous Substances (Safety Data Sheets) Notice 2017
Consolidated Hazardous Substances (Labelling) Notice 2017
New Zealand Approved Code of Practice HSNO CoP 8-1 09-06

Montreal Protocol (Ozone depleting substances) :

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

The Stockholm Convention (Persistent Organic Pollutants) :

None of the chemicals in this product are listed.

The Rotterdam Convention (Prior Informed Consent) :

None of the chemicals in this product are listed.

Basel Convention (Hazardous Waste):

None of the chemicals in this product are listed.

NFPA Classification:

Health Hazard: 2;
Fire Hazard: 1;
Reactivity Hazard: 0

SECTION 16: Other information

Date of preparation of SDS: 06 August 2019

Revision Date: 01. July 2023 Revision Number: 3.0

REFERENCES

Globally Harmonized System of Classification and Labelling of Chemicals (GHS) (Rev. 7, 2017).
ECHA Disseminated Dossiers.
Supplier information.
HSNO Control Regulations
HSNO CoP 8-1 09-06

ABBREVIATIONS

BCF: Bioconcentration Factor.
EC50: half maximal effective concentration
LD50: lethal dose, 50%
LC50: lethal concentration, 50%
NOAEL: no-observed-adverse-effect-level
STOT: Specific target organ toxicity

OTHER INFORMATION

The information in this SDS was obtained from sources which we believe to be reliable, but no warranty or representation regarding the accuracy or completeness is hereby given. All materials may present unknown hazards and should be used with extreme caution. Final determination of

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