

# Safety Data Sheet



This safety datasheet complies with the requirements of the Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))

**Version No:** 4.0  
**Date of issue:** 28/2/2014  
**Revision Date:** 01/07/2023  
**SDS Number:** SD-009US

## SECTION 1: 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  
**Other means of identification:**  
Product code (SDS No): SD-009US

### 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.

### 1.3 Suppliers details:

Manufacturer: Resonac Corporation  
Department: Functional Chemicals Business Unit /Specialty Chemicals Department  
Address: Tokyo Shiodome Building, 1-9-1, Higashi-Shimbashi, Minato-ku, Tokyo 105-7325, Japan  
Tel.: +81-3-6263-8112  
Email: rec\_shodex@resonac.com  
US supplier/importer: Resonac America, Inc.  
Address: 2150 North First Street, suite 350, San Jose, CA 95131  
Tel: +1 408 873 2200  
(Monday – Friday 09:00 – 17:00 Pacific)

### 1.4 Emergency telephone number:

CHEMTREC, USA (Customer number: CCN10573)  
U.S.A. Domestic call: 1-800-424-9300 (24h)  
International call: +1-703-741-5970 (24h)

## SECTION 2: Hazard(s) identification

### 2.1 Classification of the substance or mixture

According to OSHA 29 CFR 1910.1200 HCS  
GHS (Rev. 3, 2009): Reproductive toxicity Category 1B, H360

### 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.

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Version No: 4.0

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Revision Date: 01/07/2023

SDS Number: SD-009US

Response: P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P308 + P313: IF exposed or concerned: Get medical advice/attention.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents/containers in accordance with local/state/federal regulations.

## 2.3 Hazards Not Otherwise Classified (HNOC)

None.

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## SECTION 3: Composition / information on ingredients

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### 3.1 Substances

Not applicable.

### 3.2 Mixtures

Name	Concentration (%)	CAS-No.
Pullulan	≥ 90	9057-02-7
Methanol	< 1	67-56-1
Water	< 10	7732-18-5

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

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## SECTION 4: First-aid measures

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### 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.

### 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.

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**SDS Number:** SD-009US

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## SECTION 5: Fire-fighting measures

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### 5.1 Extinguishing media

Suitable Extinguishing Media                      Dry chemical, CO<sub>2</sub>, 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 Specific hazard 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 Advice 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).

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## SECTION 6: Accidental release measures

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### 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 material for containment and cleaning up

Carefully sweep scattered product into a suitable empty sealable container for disposal.

### 6.4 Reference to other sections

For details on exinguishing media, see Section 5

For details on personal protection, see Section 8.

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

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## SECTION 7: Handling and storage

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### 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.

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**Version No:** 4.0  
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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.

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## SECTION 8: Exposure controls / personal protection

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### 8.1 Control parameters

#### 8.1.1 Occupational exposure limits:

##### ACGIH:

Methanol: 8 hour TWA 200 ppm (260 mg/m<sup>3</sup>), 250 ppm (STEL) (Skin)

##### OSHA:

Methanol: 8 hour TWA 200 ppm (260 mg/m<sup>3</sup>) (Skin)

##### NIOSH:

Methanol: 10 hour TWA 200 ppm (260 mg/m<sup>3</sup>), 250 ppm (STEL) (Skin)

### 8.2. Exposure controls

#### 8.2.1 Appropriate engineering control

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.

#### 8.2.2 Personal protection equipment

Respiratory protection:

In case of inadequate ventilation or risk of inhalation of dust, use a suitable dust mask.

Follow the OSHA respirator regulations found in 29 CFR 1910.134.

Eye/face protection:

Wear dust resistant protective glasses, chemical goggles or face protector as described by OSHA's eye and face protection regulations in 29 CFR 1910.133

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**Version No:** 4.0

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**SDS Number:** SD-009US

Skin protection (Hand protection/ Other): Wear protective gloves. Follow OSHA's hand protection regulations in 29 CFR 1910.138.

Skin and body protection: Protective work clothing such as an apron, suit, boots, long sleeve trousers and shirts.

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.

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## SECTION 9: Physical and chemical properties

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### 9.1 Information on basic physical and chemical properties

<b>Appearance:</b>	Solid (Powder).
<b>Color:</b>	White.
<b>Odor:</b>	Odorless.
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting point/freezing point:</b>	No data available.
<b>Boiling point:</b>	No data available.
<b>Initial boiling point and boiling range:</b>	No data available.
<b>Flash point:</b>	>55°C (Estimate)
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower flammability or explosive limits:</b>	No data available.
<b>Vapour pressure:</b>	No data available.
<b>Vapour density:</b>	No data available.
<b>Relative density:</b>	No data available.
<b>Specific gravity density:</b>	No data available.
<b>Solubility:</b>	Soluble in water.
<b>Partition coefficient (n-octanol/water):</b>	both insoluble
<b>Auto-ignition temperature:</b>	ca. 280°C
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available
<b>Explosive properties:</b>	No data available.
<b>Oxidising properties:</b>	No data available.

9.2 Other information No other information available.

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## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity:**

**Acute toxicity oral:**

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 toxicity dermal:**

Methanol

Not classified.

Rabbit LD50 15800mg/kg (DFGMAK), monkey LD  
1600 - 4000mg/kg (SIDS)

**Acute toxicity inhalation:**

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

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 sensitisation:**

Classification not possible due to lack of data.

**Skin sensitisation:**

Methanol

Not classified.

Guinea pig, Skin sensitization test: Negative (EHC)

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**Version No:** 4.0

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**SDS Number:** SD-009US

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.

Substances of this product have not been identified as being as a being listed as a carcinogen by IARC, OSHA or NTP.

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:  $\geq 6500$  mg/m<sup>3</sup>; 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<sup>3</sup>; Fetal malformations (excessive or rudimentary cervical ribs, urinary or cardiovascular abnormalities), NOAEL=6500 mg/m<sup>3</sup> (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)

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**Version No:** 4.0

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**Revision Date:** 01/07/2023

**SDS Number:** SD-009US

<b>STOT- repeated exposure:</b>	Not classified.
Pullulan	Rat, 90-day oral toxicity test: No toxic effects (other companies SDS) Rat, 14-month oral toxicity test: No toxic effects (other companies 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)
<b>Aspiration hazard:</b>	Classification not possible due to lack of data
<b>Target Organs:</b>	None.
<b>Route(s) of entry/exposure:</b>	Dermal, oral, eyes, inhalation.
<b>Potential Health Effects</b>	
<b>Inhalation</b>	
<b>Acute (Immediate):</b>	No data available.
<b>Chronic (Delayed):</b>	No data available.
<b>Skin</b>	
<b>Acute (Immediate):</b>	No data available.
<b>Chronic (Delayed):</b>	No data available.
<b>Eye</b>	
<b>Acute (Immediate):</b>	No data available.
<b>Chronic (Delayed):</b>	No data available.
<b>Ingestion</b>	
<b>Acute (Immediate):</b>	No data available.
<b>Chronic (Delayed):</b>	No data available.
<b>Symptoms related to the physical, chemical and toxicological characteristics:</b>	
No data available	

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## SECTION 12: Ecological information

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<b>12.1 Toxicity</b>	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)



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## 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)
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## 12.4 Mobility in soil

Methanol	Koc=1 (predicted value) (SIDS)
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## 12.5 Other adverse effects

No additional data available.

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## SECTION 13: Disposal considerations

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### 13.1 Disposal 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.

#### 13.1.3 Other information

None.

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## SECTION 14: Transport information

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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 MARPOL73/78 and the IBC Code	Not applicable.

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## SECTION 15: Regulatory information

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

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**SDS Number:** SD-009US

**TSCA list** All components of this product are listed on the TSCA Inventory or exempt from listing.

**OSHA Hazards** This product is considered to be hazardous under OSHA 29CFR1910.1200.

**CERCLA Reportable Quantity** Methanol 5000 lb

**SARA 304 Extremely Hazardous Substances Reportable Quantity:**

No components of this product are listed.

**SARA 302:** No components of this product are listed.

**SARA 311 / 312** Chronic health hazard: No

**SARA 313** This product contains Methanol which is listed.

**Clean Air Act**

This product contains methanol which is a hazardous air pollutant (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any substances listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product contains Methanol which is listed under the U.S. Clean Air Act Section 111 SOCOMI Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

This product does not contain any substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain any substances listed under the U.S. Clean Water Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**Massachusetts Right To Know**

This product contains Methanol which is subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**

This product contains Methanol which is subject to the Pennsylvania Right to Know Act.

**New Jersey Right To Know**

This product contains Methanol which is subject to the New Jersey Right to Know Act.

**California Prop 65**

This product contains Methanol which is known to State of California as a developmental toxicant.

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Version No: 4.0

Date of issue: 28/2/2014

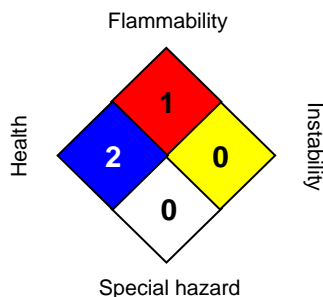
Revision Date: 01/07/2023

SDS Number: SD-009US

## SECTION 16: Other Information

### Further information

#### NFPA:



#### HMIS III:

<b>HEALTH</b>	<b>2*</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, \* = Chronic

Date of preparation of SDS: 28 February 2014

Version: 4.0

Revision: 01 July 2023

#### References:

According to Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)).

Supplier information

Agents Classified by the IARC Monographs, Volumes 1–116

#### 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

TWA, time-weighted average.

#### 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 suitability of any material is the sole responsibility of the user. Users must perceive information here only as an addition to the information collected by themselves and must decide for itself the suitability and completeness of information from all sources to ensure the correct use and disposal, the safety and health of employees and customers and environmental protection.