

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

Product name: Component P

Contact:

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SECTION 2: HAZARD IDENTIFICATION

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

GHS classification of the substance/mixture in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 4), H227

For the full text of the H-Statements mentioned in this Section, see Section 16.

Otherwise this is not a dangerous substance or mixture.

GHS label elements, including precautionary statements:

Pictogram none

Signal word Warning

Hazard statement
H227 Combustible liquid.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P264 Wash hands thoroughly after handling.

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

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

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in the classification or are not covered by the GHS:

Rapidly absorbed through skin.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS SUBSTANCE**Hazardous components**

component	Classification	Concentration
Dimethyl sulfoxide	Flam. Liq. 4; H227	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**General advice**

Immediate medical attention is required. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

Remove person into fresh air. If not breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Artificial respiration and/or oxygen may be necessary. Consult a physician. If symptoms persist, call a physician.

In case of skin contact

Immediately wash off with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing immediately with plenty of water before reuse. Consult a physician.

In case of eye contact

Flush eyes with plenty of water immediately. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep the eye wide open while rinsing. Call a physician immediately.

If swallowed

Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Note to physicians: treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:

Do NOT use water jet.

Specific hazards arising from the substance or mixture:

Carbon oxides, Sulphur oxides.

Special protective equipment and precautions for firefighters:

As in any fire, wear self-contained breathing apparatus for firefighting.

Further information

Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up:

Contain spillage, and then collect with non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities:

Store the container at -20 °C and keep it tightly closed.

Specific end use:

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component(s) with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

Exposure controls:

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment:

- Eye/face: Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Face protection shield.
- Skin: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 38 min

Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

Data source: KCL GmbH, D-36124 Eichenzell, phone +49

(0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under

conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body:	Impervious clothing.
Respiratory:	Where risk assessment shows air-purifying respirators are appropriate, use a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hygiene measures:	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.
Environment:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form: liquid, clear Color: colorless
Odor:	Sulphurous.
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	Melting point/range: 16 - 19 °C (61 - 66 °F)
Initial boiling point and boiling range:	189 °C (372 °F)
Flash point:	87 °C (189 °F) - closed cup
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits:	Upper explosion limit: 42 %(V) Lower explosion limit: 3.5 %(V)
Vapor pressure:	0.55 hPa (0.41 mmHg) at 20 °C (68 °F)
Vapor density:	2.70 - (Air = 1.0)
Relative density:	No data available.
Water Solubility:	completely miscible
Partition coefficient: n-octanol/water:	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

Explosive properties:

Not explosive.

Oxidizing properties:

No data available.

Other safety information

Relative vapour density 2.70 - (Air = 1.0)

SECTION 10: STABILITY AND REACTIVITY

Reactivity:

No data available.

Chemical stability:

Stable under recommended storage conditions.

Possibility of hazardous reactions:

No data available.

Conditions to avoid:

Heat, flames, sparks and direct sunlight.

Incompatible materials:

Acid chlorides, Phosphorus halides, Strong acids/alkalis,
Strong oxidizing/reducing agents

Hazardous decomposition products:

Carbon oxides, Sulphur oxides

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

LD50 Oral - Rat - 14,500 mg/kg

LC50 Inhalation - Rat - 4 h - 40250 ppm

LD50 Dermal - Rabbit - > 5,000 mg/kg

Skin corrosion/irritation:

Mild skin irritation

Serious eye damage/eye irritation:

No data available

Respiratory or skin sensitization:

No data available

Germ cell mutagenicity

No data available

Mouse

lymphocyte

Cytogenetic analysis

Mouse

lymphocyte

Mutation in mammalian somatic cells.

Rat

Cytogenetic analysis

Mouse
DNA damage

Carcinogenicity

No data available

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity: Avoid repeated exposure.

Additional Information

RTECS: PV6210000

Exposure to large amounts can cause: redness of skin, itching, burning, sedation, headache, nausea, dizziness

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Eyes - Eye disease - Based on Human Evidence

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 24,600 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	EC50 - Pseudokirchneriella subcapitata (green algae) - 17,000 mg/l - 72 h (OECD Test Guideline 201)

Persistence and degradability

Biodegradability	Result: 31 % - According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 301D)
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Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects

May cause long lasting harmful effects to aquatic life.

Stability in water	- 0.12 - 1.2 h at 30 °C Remarks: Hydrolyses readily.
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SECTION 13: DISPOSAL INFORMATION**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Do not reuse container. Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION**DOT (US)**

NA-Number: 1993 Class: NONE Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide) (Dimethyl sulfoxide)
Poison Inhalation Hazard: No

IMDG

Not dangerous goods.

IATA

Not dangerous goods.

SECTION 15: REGULATORY INFORMATION**International Inventories:**

All of the components in the product are on the following Inventory lists

China Inventory of Existing Chemical Substances (IECSC), China

US Federal Regulations:**SARA 302 Components.**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

US State regulations:**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Dimethyl sulfoxide	67-68-5	2007-03-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Dimethyl sulfoxide	67-68-5	2007-03-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to

cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION**HMIS Rating**

Health hazard:	0
Chronic Health Hazard:	
Flammability:	2
Physical Hazard:	0

NFPA Rating

Health hazard:	0
Fire Hazard:	2
Reactivity Hazard:	0

Other comments:

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