

SDS

In compliance with HCS/HazCom 2012



SAFETY DATA SHEET

Product: P250-R

Revision: 00

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1 - IDENTIFICATION

| | |
|---|---|
| Product identifier | P250-R |
| Product code | QN10-S0VJ-M00D-DAPC |
| Recommended use of the chemical and restrictions on use | Adhesives, sealants |
| Company | Hottinger Brüel & Kjaer |
| Address | 19 Bartlett st. Marlborough, MA 01590 |
| Telephone number | +1.508.804.3268 |
| Emergency telephone number | Chemtrec: 1-800-424-9300. International: 1-703-527-3887 |
| E-mail | support@hbm.com |

2 - HAZARDS IDENTIFICATION

| | |
|--------------------------------|---|
| Classification of the chemical | Skin sensitizer – Category 1 Germ cell mutagenicity – Category 2 |
| Signal word | WARNING |
| Hazard statement(s) | H317 May cause an allergic skin reaction. H341 Suspected of causing genetic defects. |

Symbol(s)



PREVENTION

| | |
|----------------------------|--|
| Precautionary statement(s) | P203 Obtain, read, and follow all safety instructions before use. P272 contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves, protective clothing, eye protection, face protection. |
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RESPONSE

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P318 IF exposed or concerned, get medical advice.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P362 + P364 Take off contaminated clothing and wash it before reuse.

STORAGE

P405 Store locked up.

DISPOSAL

P501 Dispose of contents and container according to current regulations.

Classification system adopted

Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A.

Adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 8 ed.

Other hazards which do not result in classification

The product has no other hazards.

3 – COMPOSITION / INFORMATION ON INGREDIENTS

MIXTURE

Impurities and stabilizing additives contributing to the hazard (%m):

| Components | Concentration % | Number CAS | GHS Classification* |
|--|-----------------|------------|---|
| Methenamine; hexamethylenetetramine | 5 - < 10% | 100-97-0 | H228; H317 |
| Phenol; carbolic acid; monohydroxybenzene; phenylalcohol** | < 1% | 108-95-2 | H301; H311; H314; H318; H330; H341; H373; H401 |

* Hazard statements are described in section 16.

**The ingredient is classified as dangerous, however, at the concentration that is present in the product, it only extrapolates the danger of mutagenicity in germ cells.

4 - FIRST-AID MEASURES

Inhalation

Remove the victim to a ventilated place and keep him at rest in

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| Skin contact | a position that does not make breathing difficult. If you feel unwell, contact a POISON CENTER or a doctor. Take this SDS. Remove all contaminated clothing. Rinse skin with soap and water or take a shower. If necessary, call a POISON CENTER or doctor / physician. Take this SDS. |
| Eye contact | Rinse thoroughly with water for minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS. |
| Ingestion | Do not induce vomiting. Do not give anything by mouth to an unconscious person. Rinse victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place the patient on the left side (if possible upwards) to keep the airway open and prevent aspiration. Keep the patient silent and maintain normal body temperature. Consult a POISON CENTER or doctor. Take this SDS. |
| Most important symptoms and effects, acute and delayed | Exposure can cause allergic skin reactions with dermatitis and itching. Suspected of causing genetic defects. |
| Indication of any immediate medical attention and special treatment needed | Avoid contact with the product when helping the victim. Exposure treatment should be directed towards the control of the patient's symptoms and clinical condition. In case of contact with the skin, do not rub the affected area. |

5 - FIRE-FIGHTING MEASURES

| | |
|--|---|
| Extinguishing media | Suitable: Compatible with water spray, dry chemical, foam, or carbon dioxide (CO ₂). Unsuitable: Water jet directly under the burning product. |
| Specific hazards arising from the chemical product | The combustion of the chemical products or containers may form toxic and irritating gases such as carbon monoxide (CO), carbon dioxide (CO ₂). |
| Specific extinguishing methods | Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing. Containers |

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and tanks involved in the fire should be cooled with water laterally.

6 - ACCIDENTAL RELEASE MEASURES

| | |
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| Personal precautions | Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8. |
| Protective equipment | Use protective equipment as described in Section 8. Wear PPE complete with safety glasses, butyl rubber safety gloves, suitable protective clothing, and closed shoes. The material used must be waterproof. In case of leakage, where |
| Emergency procedures | exposure is high, the use of a respirator with a for filter for mists and vapors. Isolate spills from ignition sources. Keep unauthorized persons away from the area. Stop the leak if it can be done without risk. |
| Environmental precautions | Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation). |
| Methods and materials for containment | Absorb the remaining product with dry sand, earth, vermiculite, or any other inert material. |
| Methods and materials for cleaning up | Collect spilled product and place in suitable containers. Place the adsorbed material in appropriate containers and remove them to a safe place. For final destination, proceed according to Section 13 of this SDS. |

7- HANDLING AND STORAGE

| | |
|-------------------------------|---|
| Precautions for safe handling | Handle in a ventilated area or with a general local ventilation / exhaust system. Avoid formation of mists and vapors. Avoid exposure to the product. Avoid contact with incompatible materials. Use personal protective equipment as described in section 8. Wash hands and face thoroughly after handling and |
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Conditions for safe storage, including any incompatibilities

before eating, drinking, smoking, or using the bathroom. Contaminated clothing must be changed and washed before reuse.

Store in a well-ventilated, dry, cool place away from sunlight. Keep the packaging tightly closed and in an area accessible only to authorized persons. Keep away from sources of ignition and heat. Keep away from incompatible materials. The product may be incompatible with strong acids, acids, strong oxidizing agents.

8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit

| Chemical name | TLV – TWA (ACGIH, 2021) | PEL – TWA (OSHA, 2019) | REL – TWA (NIOSH, 2019) |
|------------------------------|---------------------------|------------------------|--------------------------------|
| Phenol* A4 | 5 ppm | 5 ppm | 5 ppm (C) 15.6 ppm [15-min] |
| Hexamethylene tetramine** A4 | 1 mg/m ³ (IFV) | N.E. | N.E. |

A4 – Not classified as a human carcinogen.

*Skin – Danger of cutaneous absorption.

**Dsen – Dermal sensitization.

C – Ceiling limit.

N.E. Not established.

BEI ACGIH, 2021):

Phenol:

Biological limit

Phenol in urine (end of shift): 250 mg/g creatinine. B, Ns

B – Background.

Ns – Nonspecific.

Appropriate engineering

Promote direct mechanical ventilation and exhaust system to

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| | |
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| controls | the outside environment. These measures help reduce exposure to product. |
| Individual protection measures, such as personal protective equipment | |
| Respiratory protection | Use respiratory protection equipment filter for mists and vapors. Based on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection in view of the conditions of use of the product. |
| Hand protection | Nitrile rubber safety gloves, suitable protective clothing, and closed shoes. |
| Eye protection | Safety glasses with side protection. |
| Skin and body protection | Proper protective clothing and closed shoes are recommended. |
| Special precautions | Not applicable. |

9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|---|----------------|
| Appearance (physical state, color, etc.) | Liquid, brown. |
| Odour | Amines. |
| Odour threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Boiling point, initial boiling, and boiling range | Not available. |
| Flashpoint | > 140°C. |
| Upper/lower flammability or explosive limits | Not available. |
| Vapour pressure | Not available. |

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| | |
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| Vapour density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | Not available. |
| n-octanol/water partition coefficient | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Odour threshold | Not available. |
| Evaporation rate | Not available. |
| Flammability | Not available. |
| Viscosity | Not available. |
| Other information | Not available. |

10 - STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Reactivity and Chemical stability | Product is stable under normal conditions of temperature and pressure. |
| Possibility of hazardous reactions | The product can react dangerously in contact with incompatible materials. |
| Conditions to avoid | High temperatures, heat, friction and contact with incompatible materials. |
| Incompatible material | The product may be incompatible with strong acids, acids, strong oxidizing agents. |
| Hazardous decomposition products | Decomposition of product may generate toxic gases such as CO, CO ₂ , and other toxic gases. |

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11 - TOXICOLOGICAL INFORMATION

The product is not expected to be toxic to the oral, dermal or inhalation routes.

Phenol:

LD₅₀ (oral, rats): 317 mg/kg.

LD₅₀ (dermal, rabbits): 630 mg/kg.

LC₅₀ (inhalation, rats): 0.316 mg/L.

Acute toxicity

Methenamine; Hexamethylenetetramine:

LD₅₀ (oral, rats): > 20,000 mg/kg.

LD₅₀ (dermal, rats): > 2,000 mg/kg.

Acute Toxicity Estimate Mixture – ATE:

ATEmix (oral): > 5,000 mg/kg.

ATEmix (dermal): > 5,000 mg/kg.

ATEmix (inhalation): > 5 mg/L.

The product is not expected to cause skin irritation.

Skin irritation/corrosion

Methenamine; Hexamethylenetetramine:

Test skin irritation (in vivo) – OECD 404 in rabbits, methenamine is not irritating to the rabbit skin.

The product is not expected to cause eye irritation.

Eye damage/irritation

Methenamine; Hexamethylenetetramine:

Test eye irritation (in vivo) – OECD 405 in rabbits, methenamine is not irritation to the rabbit eye.

Exposure can cause allergic skin reactions with dermatitis and itching.

Respiratory or skin sensitization

Methenamine; Hexamethylenetetramine:

Skin sensitization test *in vivo* (non-LLNA) OECD Guideline 406 guinea pig – Methenamine is sensitising in the guinea pig maximization test.

Suspected of causing genetic defects.

Reproductive cell mutagenicity

Phenol:

Ames Salmonella typhimurium Assay - Result: Negative (with and without activation).

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E. Coli Assay - Result: negative.

In vitro chromosomal aberration assays on sperm development in mice. Positive result.

In vitro chromosome aberration assays in hamster ovary cells. Positive result.

Exchange of sister chromatids in vitro in human cells. Positive result.

In vivo chromosome aberration assays in rats. Positive result.

Induction of micronuclei in human peripheral lymphocytes. Positive result.

Induction of micronuclei in mouse bone marrow cells. Positive result.

Mouse lymphoma assay in L5178Y cells. Positive result

The product is not expected to have carcinogenic potential.

Phenol:

ACGIH classifies phenol as group A4 - non-carcinogenic to humans.

Carcinogenicity

IARC classifies phenol as group 3 – non-carcinogenic to humans.

Methenamine; Hexamethylenetetramine:

ACGIH classifies methenamine as group A4 - non-carcinogenic to humans.

It is not expected that the product presents reproductive toxicity.

Phenol:

Reproductive and developmental toxicity study - doses 120 mg/kg in rats: Result: dose-related fetotoxicity; no increase regarding malformations.

Reproductive toxicity

Reproductive and developmental toxicity study doses of 280 mg/kg in rats: Result: dose-related fetotoxicity; no increase regarding malformations.

Reproductive and developmental toxicity study doses of 280 mg/kg in rats: Result: fetotoxicity, maternal toxicity, slight

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| | |
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| | increase in cleft palate in offspring. Reproductive and developmental toxicity study at doses of 53 mg/kg in rats. Result: Decreased litter size, maternal toxicity, no increases in malformations. |
| Specific target organ toxicity – single exposure | Is not expected that the product to cause target organ toxicity from single exposure. |
| Specific target organ toxicity – repeated exposure | Is not expected that the product to cause target organ toxicity from repeated exposure. |
| Aspiration hazard | It is not expected that the product presents aspiration hazard. |

12 - ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product

The product is not expected to be harmful to aquatic organisms.

Methenamine; Hexamethylenetetramine:

LC₅₀ (*Lepomis macrochirus*, 96h): 41 g/L.

LC₅₀ (*Pimephales promelas*, 96h): 49.8 g/L.

EC₅₀ (*Daphnia magna*, 48h): 36 g/L.

ErC₅₀ (*Selenastrum capricornutum*, 96h): > 10 g/L.

ErC₅₀ (*Selenastrum capricornutum*, 14d): 3 g/L.

Phenol*:

LC₅₀ (*Oncorhynchus mykiss*, 96h): 7.7 mg/L.

EC₅₀ (*Daphnia magna*, 48h): 3.1 mg/L.

EC₅₀ (*Daphnia magna*, 48h): 4.7 - 6.4 mg / L.

EC₅₀ (Seaweed, 72h): 61.1 mg/L.

* *It is not in sufficient concentration to extrapolate the danger to the product.*

Persistence and degradability

The product is not expected to show persistence, it is expected to be rapidly degraded.

Bioaccumulative potential

It is expected that the product has low bioaccumulative potential in aquatic organisms.

Phenol:

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| | |
|-----------------------|---|
| | Log kow: 1.5. |
| | <u>Methenamine; Hexamethylenetetramine:</u> |
| | Log kow: -4.15. |
| Mobility in soil: | Not available. |
| Other adverse effects | There are not known adverse environmental effects of the product. |

13 - DISPOSAL CONSIDERATIONS

| | |
|---|---|
| Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: | Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep product residues in their original containers and properly closed. Disposal should be in accordance with the regulations for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for appropriate disposal as established for the product. |
|---|---|

14 - TRANSPORT INFORMATION

| | |
|-----------------------------|---|
| International regulations | UN – “United Nations” |
| Land: | Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations DOT - U.S. Department of Transportation |
| Sea: | IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code) |
| Air: | IATA – International Air Transport Association Dangerous Goods Regulation (DGR) |
| UN number: | Not classified as dangerous according to transport modes. |
| Transport in bulk according | Consult regulations: |

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to MARPOL 73/78, Annex II, and the IBC Code:

- International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006.
- International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.

Special precautions: There is no need of special precautions.

15 - REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation specific for the substance or mixture

International Labor Organization C170 Chemicals Convention, from June 25th, 1990: Occupational Safety and Health – Toxic Substances and Agents.

Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A, B, C, D, E, F.

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS). 8. rev. ed.

U.S. Federal Regulations: United States inventory (TSCA): Methenamine; Hexamethylenetetramine is listed. Phenol is listed.

California Proposition 65: Ingredients are not listed.

16 - OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

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SDS elaborated in August 2021.

Hazard phrases described in section 3:

H228 Flammable solid.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H341 Suspected of causing genetic defects.

H373 May cause liver, kidney, skin, and central nervous system damage through prolonged or repeated exposure.

H401 Toxic to aquatic life.

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

CAS – Chemical Abstracts Service

LC₅₀ – Lethal Concentration 50%

LD₅₀ – Lethal Dose 50%

ERPG - Emergency Response Planning Guidelines

NIOSH – National Institute of Occupational Safety and Health

OSHA – Occupational Safety & Health Administration

PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit

STEL – Short Term Exposure Limit

TLV – Threshold Limit Value

TWA – Time Weighted Average

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS.

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EPA. United States Environmental protection Agency. Comptox. Available in: <<https://comptox.epa.gov>>. Access in: Aug. 2021.

GHS. Globally Harmonized System of Classification and Labelling of Chemicals. 8. rev. ed. New York: United Nations, 2019.

HSDB. HAZARDOUS SUBSTANCES DATA BANK. Available in: <<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>>. Access in: Aug. 2021..

IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <<http://monographs.iarc.fr/ENG/Classification/index.php>>. Access in: Aug. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available in: <<http://www.cdc.gov/niosh/>>. Access in: Aug. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <<http://nj.gov/health/eoh/rtkweb/odispubr.shtml>>. Access in: Aug. 2021.

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