1 Identification

· Product identifier
  · Trade name: CorShield® VpCI®-368 Aerosol

· Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.

· Application of the substance / the mixture
  Corrosion inhibitors

· Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    Cortec Corporation
    4119 White Bear Parkway
    St. Paul, MN 55110 USA
    Phone (651) 429-1100
    Fax (651) 429-1122
  · Information department: regulatory@cortecvci.com
  · Emergency telephone number:
    Spill, Leak, Fire, Exposure, or Accident
    24 hour CHEMTREC contact:
    USA and Canada 1-800-424-9300
    International +1 703-527-3887 (collect calls accepted)

* 2 Hazard(s) identification

· Classification of the substance or mixture
  GHS02 GHS04 Flame, Gas cylinder

  Flam. Aerosol 1 H222 Extremely flammable aerosol.

  GHS04 Gas cylinder

  Press. Gas H280 Contains gas under pressure; may explode if heated.

  GHS08 Health hazard

  Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

· Label elements
  · GHS label elements
    The product is classified and labeled according to the Globally Harmonized System (GHS).

  · Hazard pictograms
    GHS02 GHS04 GHS08

· Signal word Danger

· Hazard-determining components of labeling:
  Distillates (petroleum), hydrotreated light
  isobutane
  propane liquefied

(Contd. on page 2)
Trade name: CorShield® VpCI®-368 Aerosol

- **Hazard statements**
  Extremely flammable aerosol.
  Contains gas under pressure; may explode if heated.
  May be fatal if swallowed and enters airways.

- **Precautionary statements**
  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  Do not pierce or burn, even after use.
  Do not spray on an open flame or other ignition source.
  IF SWALLOWED: Immediately call a POISON CENTER/doctor.
  Do NOT induce vomiting.
  Store locked up.
  Protect from sunlight. Store in a well-ventilated place.
  Do not expose to temperatures exceeding 50°C/122°F.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**
  Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-47-8</td>
<td>265-149-8</td>
<td>Distillates (petroleum), hydrotreated light Asp. Tox. 1, H304</td>
<td>25-50%</td>
</tr>
<tr>
<td>75-28-5</td>
<td>200-857-2</td>
<td>isobutane</td>
<td>10-25%</td>
</tr>
<tr>
<td>74-98-6</td>
<td>200-827-9</td>
<td>propane liquefied</td>
<td>10-25%</td>
</tr>
</tbody>
</table>

- **Additional information**
  In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR 1910.1200), the specific chemical identity and/or exact percentage composition has been withheld as a trade secret.
  This product contains mineral oil CAS number 64742-54-7 which contains less than 3 % DMSO extract as measured by IP 346.
  This product contains mineral oil CAS number 64742-65-0 which contains less than 3 % DMSO extract as measured by IP 346.
  This product contains mineral oil CAS number 64742-55-8 which contains less than 3 % DMSO extract as measured by IP 346.
  This product contains mineral oil CAS number 64742-56-9 which contains less than 3 % DMSO extract as measured by IP 346.
  For the wording of the listed hazard phrases refer to section 16.

### 4 First-aid measures

- **Description of first aid measures**
  - **After inhalation** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact** Rinse opened eye for several minutes under running water.
  - **After swallowing** If symptoms persist consult doctor.
Trade name: CorShield® VpCI®-368 Aerosol

- Information for doctor
- Most important symptoms and effects, both acute and delayed: No further relevant information available.
- Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents

  CO2, sand, extinguishing powder. Do not use water.

- For safety reasons unsuitable extinguishing agents
  - Water.
  - Water with full jet.
- Special hazards arising from the substance or mixture: No further relevant information available.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures

  Wear protective equipment. Keep unprotected persons away.

  Ensure adequate ventilation
  Keep away from ignition sources
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up:
  - Ensure adequate ventilation.
  - Do not flush with water or aqueous cleansing agents
- Reference to other sections
  - See Section 7 for information on safe handling
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- Handling
- Precautions for safe handling

  Ensure good ventilation/exhaustion at the workplace.
  Open and handle receptacle with care.
- Information about protection against explosions and fires:

  Keep ignition sources away - Do not smoke.

  Protect against electrostatic charges.
  Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights.
  Do not pierce or burn, even after use.
Trade name: CorShield® VpCI®-368 Aerosol

Do not spray on a naked flame or any incandescent material. Use explosion-proof apparatus / fittings and spark-proof tools.

- **Conditions for safe storage, including any incompatibilities**
  - **Storage**
    - **Requirements to be met by storerooms and receptacles:**
      - Store in a cool location.
      - Store only in the original receptacle.
      - Observe official regulations on storing packagings with pressurized containers.
    - **Information about storage in one common storage facility:**
      - Store away from foodstuffs.
      - Store away from oxidizing agents.
  - **Further information about storage conditions:**
    - Keep receptacle tightly sealed.
    - Do not gas tight seal receptacle.
    - Store in cool, dry conditions in well sealed receptacles.
    - Protect from heat and direct sunlight.
  - **Specific end use(s)** No further relevant information available.

---

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**
    | Component | Limit Value |
    |-----------|-------------|
    | 64742-47-8 Distillates (petroleum), hydrotreated light (25-50%) | RCP-TWA (USA) Long-term value: 1200 mg/m³ Total Hydrocarbons |
    | 75-28-5 isobutane (10-25%) | TLV (USA) Short-term value: 2370 mg/m³, 1000 ppm |
    | 74-98-6 propane liquefied (10-25%) | PEL (USA) Long-term value: 1800 mg/m³, 1000 ppm REL (USA) Long-term value: 1800 mg/m³, 1000 ppm TLV (USA) refer to Appendix F inTLVs and BEIs book |

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment**
  - **General protective and hygienic measures**
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing
    - Wash hands before breaks and at the end of work.
  - **Breathing equipment:**
    - Use suitable respiratory protective device in case of insufficient ventilation.

- **Protection of hands:**
  - Protective gloves
    - I.E., Nitrile, Viton, Neoprene
    - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Aerosol
      - Color: According to product specification
    - Odor: Characteristic
    - Odor threshold: Not determined.
  - pH-value: Not determined.
- Change in condition
  - Melting point/Melting range: undetermined
  - Boiling point/Boiling range: -44 °C (-47 °F) (*)
- Flash point: -97 °C (-143 °F) (*)
- Flammability (solid, gaseous) Not applicable.
- Ignition temperature: 210 °C (410 °F) (*)
- Decomposition temperature: Not determined.
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Not determined.
- Explosion limits:
  - Lower: 0.5 Vol % (*)
  - Upper: 10.9 Vol % (*)
- Vapor pressure at 20 °C (68 °F): 8300 hPa (6226 mm Hg) (*)
- Density: Not determined
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not applicable.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - dynamic: Not determined.
  - kinematic: Not determined.
- Other information
  The above data are typical values and do not constitute a specification.
  *Properties have been calculated.
10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: No decomposition if used according to specifications.
- **Thermal decomposition / conditions to be avoided**: No decomposition if used according to specifications.
- **Possibility of hazardous reactions**: No dangerous reactions known.
- **Conditions to avoid**: No further relevant information available.
- **Incompatible materials**: No further relevant information available.
- **Hazardous decomposition products**: No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity**:
    - **Primary irritant effect**:
      - **on the skin**: No irritant effect.
      - **on the eye**: No irritating effect.
    - **Sensitization**: No sensitizing effects known.
  - **Additional toxicological information**:
    - **Carcinogenic categories**
      - **IARC (International Agency for Research on Cancer)**
        - 14808-60-7 Quartz (SiO2)
        - I
      - **NTP (National Toxicology Program)**
        - 14808-60-7 Quartz (SiO2)
        - K
      - **OSHA-Ca (Occupational Safety & Health Administration)**
        - None of the ingredients is listed.

12 Ecological information

- **Toxicity**
  - **Aquatic toxicity**: No further relevant information available.
  - **Persistence and degradability**: No further relevant information available.
  - **Behavior in environmental systems**: No further relevant information available.
  - **Bioaccumulative potential**: No further relevant information available.
  - **Mobility in soil**: No further relevant information available.
  - **Additional ecological information**:
    - **General notes**:
      - Water hazard class 2 (Self-assessment): hazardous for water.

- **Results of PBT and vPvB assessment**
  - **PBT**: Not applicable.
  - **vPvB**: Not applicable.
  - **Other adverse effects**: No further relevant information available.
## 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **UN-Number**
  - DOT, ADR, IMDG, IATA: UN1950

- **UN proper shipping name**
  - DOT, IATA: Aerosols, flammable
  - ADR: 1950 Aerosols
  - IMDG: AEROSOLS

- **Transport hazard class(es)**

  - **DOT**
    - **Class:** 2.1
    - **Label:** 2.1

  - **ADR**
    - **Class:** 2.5F Gases
    - **Label:** 2.1

  - **IMDG, IATA**
    - **Class:** 2.1
    - **Label:** 2.1

- **Packing group**
  - DOT, ADR, IMDG, IATA: Not applicable
  - Void

- **Environmental hazards:**
  - Not applicable.

- **Special precautions for user**
  - **Warning:** Gases

(Contd. on page 8)
### Trade name: CorShield® VpCI®-368 Aerosol

**Danger code (Kemler):**

- EMS Number: F-D-S-U
- Stowage Code: SW1 Protected from sources of heat.
- SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.

**Segregation Code:**

- SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

- Not applicable.

**Additional information:**

- **ADR**
  - Excepted quantities (EQ): Code: E0
    - Not permitted as Excepted Quantity

- **IMDG**
  - Limited quantities (LQ): 1L
  - Excepted quantities (EQ): Code: E0
    - Not permitted as Excepted Quantity

- **UN "Model Regulation":**
  - UN 1950 AEROSOLS, 2.1

### 15 Regulatory information

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

- **SARA Section 355 (extremely hazardous substances)**
  - None of the ingredients is listed.

- **SARA Section 313 (specific toxic chemical listings)**
  - None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act) (Substances not listed)**
  - All ingredients are listed.

- **Prop 65 - Chemicals known to cause cancer**
  - 14808-60-7 Quartz (SiO2)

- **Cancerogenity categories**

- **EPA (Environmental Protection Agency)**
  - None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**
  - 14808-60-7 Quartz (SiO2) A2

- **MAK (German Maximum Workplace Concentration)**
  - 14808-60-7 Quartz (SiO2) 1

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  - 14808-60-7 Quartz (SiO2)
GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms:
- GHS02
- GHS04
- GHS08

Signal word: Danger

Hazard-determining components of labeling:
- Distillates (petroleum), hydrotreated light
- Isobutane
- Propane liquefied

Hazard statements:
- Extremely flammable aerosol.
- Contains gas under pressure; may explode if heated.
- May be fatal if swallowed and enters airways.

Precautionary statements:
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Do not pierce or burn, even after use.
- Do not spray on an open flame or other ignition source.
- IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- Do NOT induce vomiting.
- Store locked up.
- Protect from sunlight. Store in a well-ventilated place.
- Do not expose to temperatures exceeding 50°C/122°F.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

Technical instructions (air):

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK</td>
<td>18.3</td>
</tr>
</tbody>
</table>

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Cortec Corporation does not warranty any translation of this SDS not created by Cortec Corporation.

Relevant phrases:
- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H304 May be fatal if swallowed and enters airways.

Date of preparation / last revision: 02/01/2016 / -

Abbreviations and acronyms:
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
Trade name: CorShield® VpCI®-368 Aerosol

ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
Flam. Gas 1: Flammable gases, Hazard Category 1
Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
Press. Gas: Gases under pressure: Compressed gas
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
* Data compared to the previous version altered.