# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Kera-Sep Spray non flammable



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Kera-Sep Spray non flammable

**Product code:**

11141-1

UFI: N1Y2-R0PM-A006-X5MV

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Use of the substance/mixture**

Restricted to professional users.

### 1.3. Details of the supplier of the safety data sheet

| | | |
|---|---|---|
| Company name: | DFS-DIAMON GmbH | |
| Street: | Ländenstr. 1 | |
| Place: | D-93339 Riedenburg | |
| Telephone: | +49 (0)9442 9189 0 | Telefax: +49 (0)9442 9189 37 |
| e-mail: | info@dfs-diamon.de | |
| Contact person: | Armin Aunkofer | |
| e-mail: | armin.aunkofer@dfs-diamon.de | |
| Internet: | www.dfs-diamon.de | |

### 1.4. Emergency telephone number:

24 hour Emergency Contact: +49 (0) 700 24112112 (DFS)
+1 872 5888271

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

Aerosol 3; H229
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

**Regulation (EC) No 1272/2008**

**Signal word:** Warning

**Pictograms:**



**Hazard statements**

| | |
|---|---|
| H229 | Pressurised container: May burst if heated. |
| H319 | Causes serious eye irritation. |

**Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P251 | Do not pierce or burn, even after use. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. |

**Special labelling of certain mixtures**

6 % by mass of the contents are flammable.

**2.3. Other hazards**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

## SECTION 3: Composition/information on ingredients

**3.2. Mixtures**

**Hazardous components**

| CAS No | Chemical name | | | Quantity |
|---|---|---|---|---|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 1645-83-6 | trans-1,3,3,3-Tetrafluoroprop-1-ene | | | 75 - < 80 % |
| | 471-480-0 | | | |
| | Liquefied gas; H280 | | | |
| 64-17-5 | ethanol, ethyl alcohol | | | 1 - < 5 % |
| | 200-578-6 | 603-002-00-5 | 01-2119457610-43 | |
| | Flam. Liq. 2, Eye Irrit. 2; H225 H319 | | | |
| 109-66-0 | pentane | | | 1 - < 5 % |
| | 203-692-4 | 601-006-00-1 | 01-2119459286-30 | |
| | Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411 EUH066 | | | |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No | EC No | Chemical name | Quantity |
|---|---|---|---|
| | Specific Conc. Limits, M-factors and ATE | | |
| 1645-83-6 | 471-480-0 | trans-1,3,3,3-Tetrafluoroprop-1-ene | 75 - < 80 % |
| | inhalation: LC50 = > 207000 ppm (gases) | | |
| 64-17-5 | 200-578-6 | ethanol, ethyl alcohol | 1 - < 5 % |
| | inhalation: LC50 = 124,7 mg/l (vapours); oral: LD50 = > 5000 mg/kg | | |

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**General information**

When in doubt or if symptoms are observed, get medical advice.

**After inhalation**

Provide fresh air. If experiencing respiratory symptoms: Call a doctor.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

**4.2. Most important symptoms and effects, both acute and delayed**

No information available.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**5.2. Special hazards arising from the substance or mixture**

Non-flammable. Vapours can form explosive mixtures with air.
In case of fire may be liberated: Hydrogen fluoride, Pyrolysis products, toxic.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. Full protective suit.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

**General advice**

Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

Provide adequate ventilation.
Use personal protection equipment.

**For emergency responders**

Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up**

**For containment**

Stop leak if safe to do so.

**For cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Other information**

Clean contaminated articles and floor according to the environmental legislation.

**6.4. Reference to other sections**

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

**Advice on safe handling**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**Advice on protection against fire and explosion**

Heating causes rise in pressure with risk of bursting.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Further information on handling**

Do not pierce or burn, even after use.

### 7.2. Conditions for safe storage, including any incompatibilities

**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep in a cool, well-ventilated place.

**Hints on joint storage**

No information available.

**Further information on storage conditions**

Keep away from heat. Protect from sunlight.

### 7.3. Specific end use(s)

Restricted to professional users.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits**

| CAS No | Substance | ppm | mg/m³ | fib/cm³ | Category | Origin |
|---|---|---|---|---|---|---|
| 64-17-5 | Ethanol | 1000 | - | | STEL (15 min) | |
| - | Mineral Oil pure, highly & severely refined (Inhalable) | - | 5 | | TWA (8 h) | |
| 109-66-0 | n-Pentane | 1000 | - | | TWA (8 h) | |

**DNEL/DMEL values**

| CAS No | Substance | | | |
|---|---|---|---|---|
| DNEL type | | Exposure route | Effect | Value |
| 8042-47-5 | White mineral oil (petroleum) | | | |
| Worker DNEL, long-term | | dermal | systemic | 217,05 mg/kg bw/day |
| 64-17-5 | ethanol, ethyl alcohol | | | |
| Worker DNEL, long-term | | inhalation | systemic | 950 mg/m³ |
| Worker DNEL, acute | | inhalation | local | 1900 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 343 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 114 mg/m³ |
| Consumer DNEL, acute | | inhalation | local | 950 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 206 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 87 mg/kg bw/day |
| 109-66-0 | pentane | | | |
| Worker DNEL, long-term | | inhalation | systemic | 3000 mg/m³ |
| Worker DNEL, long-term | | dermal | systemic | 432 mg/kg bw/day |
| Consumer DNEL, long-term | | inhalation | systemic | 643 mg/m³ |
| Consumer DNEL, long-term | | dermal | systemic | 214 mg/kg bw/day |
| Consumer DNEL, long-term | | oral | systemic | 214 mg/kg bw/day |

**PNEC values**

| CAS No | Substance | |
|---|---|---|
| Environmental compartment | | Value |
| 64-17-5 | ethanol, ethyl alcohol | |
| Freshwater | | 0,96 mg/l |
| Freshwater (intermittent releases) | | 2,75 mg/l |
| Marine water | | 0,79 mg/l |
| Marine water (intermittent releases) | | 2,75 mg/l |
| Freshwater sediment | | 3,6 mg/kg |
| Marine sediment | | 2,9 mg/kg |
| Secondary poisoning | | 0,72 mg/kg |
| Micro-organisms in sewage treatment plants (STP) | | 580 mg/l |
| Soil | | 0,63 mg/kg |
| 109-66-0 | pentane | |
| Freshwater | | 0,23 mg/l |
| Freshwater (intermittent releases) | | 0,88 mg/l |
| Marine water | | 0,23 mg/l |
| Freshwater sediment | | 1,2 mg/kg |
| Marine sediment | | 1,2 mg/kg |
| Soil | | 0,55 mg/kg |

## 8.2. Exposure controls





**Appropriate engineering controls**

Provide adequate ventilation as well as local exhaustion at critical locations.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Use eye protection according to EN 166.

**Hand protection**

Wear suitable gloves tested to EN374.
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.
Respiratory protection necessary at: exceeding exposure limit values.

**Thermal hazards**

No information available.

**Environmental exposure controls**

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state: | Liquid |
| Colour: | colourless, transparent |
| Odour: | characteristic |
| Odour threshold: | not determined |

**Changes in the physical state**

| | |
|---|---|
| Melting point/freezing point: | not determined |
| Boiling point or initial boiling point and boiling range: | not determined |
| Flash point: | not determined (*) |

**Flammability**

| | |
|---|---|
| Solid/liquid: | not applicable |
| Gas: | not applicable |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Auto-ignition temperature: | (Propellant) 288 °C |
| Decomposition temperature: | not determined |
| pH-Value: | not determined |
| Viscosity / kinematic: | not determined |
| Water solubility: | easily soluble |

**Solubility in other solvents**

not determined

| | |
|---|---|
| Partition coefficient n-octanol/water: | not determined |
| Vapour pressure: | not determined |
| Density: | not determined |
| Relative vapour density: | not determined |
| Particle characteristics: | not applicable |

### 9.2. Other information

**Other safety characteristics**

Explosive properties: Heating causes rise in pressure with risk of bursting.
(*) Propellant: flame-resistant

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Aerosol, Heating causes rise in pressure with risk of bursting.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Vapours can form explosive mixtures with air.

### 10.4. Conditions to avoid

Protect against direct sunlight. Keep away from heat.

### 10.5. Incompatible materials

No information available.

### 10.6. Hazardous decomposition products

In case of fire may be liberated: Hydrogen fluoride, Pyrolysis products, toxic.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity**

Based on available data, the classification criteria are not met.

| CAS No | Chemical name | | | | |
|---|---|---|---|---|---|
| | Exposure route | Dose | Species | Source | Method |
| 1645-83-6 | trans-1,3,3,3-Tetrafluoroprop-1-ene | | | | |
| | inhalation (4 h) gas | LC50 > 207000 ppm | Rat | Manufacturer | |
| 64-17-5 | ethanol, ethyl alcohol | | | | |
| | oral | LD50 > 5000 mg/kg | Rat | Manufacturer | |
| | inhalation (4 h) vapour | LC50 124,7 mg/l | Rat | Manufacturer | |

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

Eye contact, Skin contact, Inhalation.

Active agent: oral

### 11.2. Information on other hazards

**Endocrine disrupting properties**

No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

The product is not: Ecotoxic.

| CAS No | Chemical name | | | | | | |
|---|---|---|---|---|---|---|---|
| | Aquatic toxicity | Dose | | [h] \| [d] | Species | Source | Method |
| 1645-83-6 | trans-1,3,3,3-Tetrafluoroprop-1-ene | | | | | | |
| | Acute crustacea toxicity | EC50 mg/l | > 160 | 48 h | Daphnia magna (Big water flea) | Manufacturer | |
| | Fish toxicity | NOEC mg/l | > 117 | 4 d | Cyprinus carpio (Common Carp) | Manufacturer | |
| | Algae toxicity | NOEC mg/l | > 170 | 3 d | Algae | Manufacturer | |
| 64-17-5 | ethanol, ethyl alcohol | | | | | | |
| | Acute fish toxicity | LC50 mg/l | 14200 | 96 h | Pimephales promelas (fathead minnow) | Manufacturer | |
| | Acute algae toxicity | ErC50 | 275 mg/l | 72 h | Chlorella vulgaris | Manufacturer | |
| | Acute crustacea toxicity | EC50 mg/l | 5012 | 48 h | Ceriodaphnia dubia | Manufacturer | |
| | Crustacea toxicity | NOEC | 9,6 mg/l | 9 d | Daphnia magna (Big water flea) | Manufacturer | |

### 12.2. Persistence and degradability

The product has not been tested.

| CAS No | Chemical name | | | |
|---|---|---|---|---|
| | Method | Value | d | Source |
| | Evaluation | | | |
| 64-17-5 | ethanol, ethyl alcohol | | | |
| | Biodegradation | 84 % | 20 | Manufacturer |
| | Readily biodegradable (according to OECD criteria). | | | |

### 12.3. Bioaccumulative potential

The product has not been tested.

**Partition coefficient n-octanol/water**

| CAS No | Chemical name | Log Pow |
|---|---|---|
| 1645-83-6 | trans-1,3,3,3-Tetrafluoroprop-1-ene | 2,01 |
| 64-17-5 | ethanol, ethyl alcohol | -0,31 |

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

### 12.7. Other adverse effects

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste

according to applicable legislation.

**Contaminated packaging**

Do not pierce or burn, even after use. Handle contaminated packages in the same way as the substance itself.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1950 |
| **14.2. UN proper shipping name:** | AEROSOLS |
| **14.3. Transport hazard class(es):** | 2 |
| **14.4. Packing group:** | - |
| Hazard label: | 2.2 |




| | |
|---|---|
| Classification code: | 5A |
| Special Provisions: | 190 327 344 625 |
| Limited quantity: | 1 L |
| Excepted quantity: | E0 |
| Transport category: | 3 |
| Tunnel restriction code: | E |

**Inland waterways transport (ADN)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1950 |
| **14.2. UN proper shipping name:** | AEROSOLS |
| **14.3. Transport hazard class(es):** | 2 |
| **14.4. Packing group:** | - |
| Hazard label: | 2.2 |




| | |
|---|---|
| Classification code: | 5A |
| Special Provisions: | 190 327 344 625 |
| Limited quantity: | 1 L |
| Excepted quantity: | E0 |

**Marine transport (IMDG)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1950 |
| **14.2. UN proper shipping name:** | AEROSOLS |
| **14.3. Transport hazard class(es):** | 2.2 |
| **14.4. Packing group:** | - |
| Hazard label: | 2.2 |




| | |
|---|---|
| Special Provisions: | 63, 190, 277, 327, 344, 381, 959 |
| Limited quantity: | 1000 mL |
| Excepted quantity: | E0 |
| EmS: | F-D, S-U |

**Air transport (ICAO-TI/IATA-DGR)**

| | |
|---|---|
| **14.1. UN number or ID number:** | UN 1950 |
| **14.2. UN proper shipping name:** | AEROSOLS, NON-FLAMMABLE |
| **14.3. Transport hazard class(es):** | 2.2 |

**14.4. Packing group:** -

Hazard label: 2.2




| | |
|---|---|
| Special Provisions: | A98 A145 A167 A802 |
| Limited quantity Passenger: | 30 kg G |
| Passenger LQ: | Y203 |
| Excepted quantity: | E0 |
| IATA-packing instructions - Passenger: | 203 |
| IATA-max. quantity - Passenger: | 75 kg |
| IATA-packing instructions - Cargo: | 203 |
| IATA-max. quantity - Cargo: | 150 kg |

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Pressurised container: May burst if heated. Vapours can form explosive mixtures with air.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

## SECTION 15: Regulatory information

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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

| | |
|---|---|
| 2010/75/EU (VOC): | < 90 % |
| Information according to 2012/18/EU (SEVESO III): | Not subject to 2012/18/EU (SEVESO III) |

**Additional information**

Aerosol directive (75/324/EEC).

**National regulatory information**

| | |
|---|---|
| Employment restrictions: | Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). |
| Water hazard class (D): | 1 - slightly hazardous to water |

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

**Changes**

This data sheet contains changes from the previous version in section(s): 1,2,4,5,6,7,8,9,10,11,12,13,14,15,16.

**Abbreviations and acronyms**

CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu

**Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]**

| Classification | Classification procedure |
|---|---|
| Aerosol 3; H229 | On basis of test data |
| Eye Irrit. 2; H319 | Bridging principle "Aerosols" |

**Relevant H and EUH statements (number and full text)**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H229 | Pressurised container: May burst if heated. |
| H280 | Contains gas under pressure; may explode if heated. |
| H304 | May be fatal if swallowed and enters airways. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*