

# SAFETY DATA SHEET

Ink cartridge (Black)

IP6-104

**OKI DATA INFOTECH CORPORATION**

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## Safety Data Sheet

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### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

|   |   |
|---|---|
| 1.1 Product identifier  | Product Name : Ink cartridge (Black)<br>Product Code : IP6-104  |
| 1.2 Relevant identified uses of the substance or mixture and uses advised against | Inkjet Ink  |
| 1.3 Details of the supplier of the safety data sheet                              |   |
| Manufacturer's Name :   | OKI Data Infotech Corporation<br>563, Takatsuka-Shinden, Matsudo-shi, Chiba, 270-2222, Japan<br>Tel:+81-47-391-2349 |
| Distributor:  | OKI Europe Ltd. Wide Format Division<br>Siemensstrase 9, D-63263 Neu-Isenburg<br>Germany<br>+49 (0) 6102 297 400    |

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### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

<Regulation (EC) No. 1272/2008>

##### Classification

|   |  |
|---|--|
| Acute toxicity, Category 4                          | H312: Harmful in contact with skin.                                      |
| Reproductive toxicity, Category 1B<br><1999/45/EC > | H360D: May damage the unborn child.                                      |
| Toxic to Reproduction Category 1                    | R61: May cause harm to the unborn child.                                 |
| Harmful   | R20/21/22: Harmful by inhalation, in contact with skin and if swallowed. |

#### 2.2 Label elements

<Regulation (EC) No. 1272/2008>

##### Hazard pictograms



|                   |  |
|-------------------|--|
| Signal word:      | Danger   |
| Hazard statements | H312 Harmful in contact with skin.<br>H360D May damage the unborn child. |

##### Precautionary statements

|             |  |
|-------------|--|
| Prevention: | P201 Obtain special instructions before use.<br>P202 Do not handle until all safety precautions have been read and understood.<br>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| Response:   | P302 + P352 + P312 IF ON SKIN: Wash with plenty of wa-ter. Call a POISON CENTER or doctor/ physician if you feel unwell.<br>P308 + P313 IF exposed or concerned: Get medical ad-vice/ attention.                     |

Hazardous components which must be listed on the label:

2-Butoxyethyl acetate  
N-Methyl-2-pyrrolidone

### 2.3 Other hazards

Vapours may form explosive mixture with air.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Main Ingredients       | Content(%) | CAS-No.   | EC-No.    | Classification (67/548/EEC)         | Classification (REGULATION (EC) No 1272/2008)                                   |
|------------------------|------------|-----------|-----------|-------------------------------------|---|
| 2-Butoxyethyl acetate  | 80-90      | 112-07-2  | 203-933-3 | Xn;<br>R20/21/22                    | Acute Tox. 4; H302<br>Acute Tox. 4; H312<br>Acute Tox. 4; H332                  |
| N-Methyl-2-pyrrolidone | <5         | 872-50-4  | 212-828-1 | Repr.Cat.2;<br>R61<br>Xi; R36/37/38 | Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Repr. 1B; H360D<br>STOT SE 3; H335 |
| Carbon black           | 1-10       | 1333-86-4 | 215-609-9 | None                                | None  |

Other components (listed on EINECS, NLP or ELINCS) are not hazardous according to the directives mentioned above.

## 4. FIRST-AID MEASURES

### 4.1 Description of first aid measures

|                             |  |
|-----------------------------|--|
| General advice:             | In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.   |
| Protection of first-aiders: | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.  |
| If inhaled:                 | If inhaled, remove to fresh air.<br>Get medical attention if symptoms occur.   |
| In case of skin contact:    | In case of contact, immediately flush skin with plenty of water.<br>Remove contaminated clothing and shoes.<br>Get medical attention if symptoms occur.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse. |
| In case of eye contact:     | Flush eyes with water as a precaution.<br>Get medical attention if irritation develops and persists.   |
| If swallowed:               | If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water   |

### 4.2 Most important symptoms and effects, both acute and delayed

|        |   |
|--------|---|
| Risks: | Harmful in contact with skin.<br>May damage the unborn child. |
|--------|---|

### 4.3 Indication of any immediate medical attention and special treatment needed

|            |  |
|------------|--|
| Treatment: | Treat symptomatically and supportively |
|------------|--|

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

|                               |   |
|-------------------------------|---|
| Suitable extinguishing media: | Water spray<br>Alcohol-resistant foam<br>Dry chemical |
|-------------------------------|---|

Carbon dioxide (CO<sub>2</sub>)

Unsuitable Extinguishing Media

High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting: Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapours may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)

5.3 Advice for firefighters

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Cool containers/tanks with water spray.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Remove all sources of ignition.  
Use personal protective equipment.  
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions: Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Non-sparking tools should be used.  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Suppress (knock down) gases/vapours/mists with a water spray jet.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

|                          |   |
|--------------------------|---|
| Technical measures:      | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.   |
| Local/Total ventilation: | Use with local exhaust ventilation.<br>Use only in an area equipped with explosion proof exhaust ventilation.   |
| Advice on safe handling: | Do not get on skin or clothing.<br>Avoid inhalation of vapour or mist.<br>Do not swallow.<br>Do not get in eyes.<br>Handle in accordance with good industrial hygiene and safety practice.<br>Keep container tightly closed.<br>Keep away from heat and sources of ignition.<br>Take precautionary measures against static discharges.<br>Take care to prevent spills, waste and minimize release to the environment. |
| Hygiene measures:        | Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before reuse.   |

**7.2 Conditions for safe storage, including any incompatibilities**

|  |   |
|--|---|
| Requirements for storage areas and containers: | Keep in properly labelled containers. Keep tightly closed.<br>Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition. |
| Advice on common storage:                      | Do not store with the following product types:<br>Strong oxidizing agents<br>Explosives<br>Gases  |

**7.3 Specific end use(s)**

|                  |                   |
|------------------|-------------------|
| Specific use(s): | No data available |
|------------------|-------------------|

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

## Occupational Exposure Limits

| Components             | CAS-No.  | Value type (Form of exposure) | Control parameters              | Basis       |
|------------------------|----------|-------------------------------|---------------------------------|-------------|
| 2-Butoxyethyl acetate  | 112-07-2 | TWA                           | 20 ppm<br>133 mg/m <sup>3</sup> | 2000/39/EC  |
|                        |          | STEL                          | 50 ppm<br>333 mg/m <sup>3</sup> | 2000/39/EC  |
|                        |          | TWA                           | 20 ppm                          | GB EH40     |
|                        |          | STEL                          | 50 ppm                          | GB EH40     |
| N-Methyl-2-pyrrolidone | 872-50-4 | TWA                           | 10 ppm<br>40 mg/m <sup>3</sup>  | 2009/161/EU |
|                        |          | STEL                          | 20 ppm<br>80 mg/m <sup>3</sup>  | 2009/161/EU |
|                        |          | TWA                           | 10 ppm<br>40 mg/m <sup>3</sup>  | GB EH40     |

|              |           |      |                                |         |
|--------------|-----------|------|--------------------------------|---------|
|              |           | STEL | 20 ppm<br>80 mg/m <sup>3</sup> | GB EH40 |
| Carbon black | 1333-86-4 | TWA  | 3.5 mg/m <sup>3</sup>          | GB EH40 |
|              |           | STEL | 7.0 mg/m <sup>3</sup>          | GB EH40 |

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

2-Butoxyethyl acetate:

End Use: Workers  
 Exposure routes: Inhalation  
 Potential health effects: Long-term systemic effects  
 Value: 133 mg/m<sup>3</sup>  
 End Use: Workers  
 Exposure routes: Inhalation  
 Potential health effects: Acute systemic effects  
 Value: 775 mg/m<sup>3</sup>  
 End Use: Workers  
 Exposure routes: Inhalation  
 Potential health effects: Acute local effects  
 Value: 333 mg/m<sup>3</sup>  
 End Use: Workers  
 Exposure routes: Skin contact  
 Potential health effects: Long-term systemic effects  
 Value: 102 mg/kg  
 End Use: Workers  
 Exposure routes: Skin contact  
 Potential health effects: Acute systemic effects  
 Value: 102 mg/kg  
 End Use: Consumers  
 Exposure routes: Inhalation  
 Potential health effects: Long-term systemic effects  
 Value: 67 mg/m<sup>3</sup>  
 End Use: Consumers  
 Exposure routes: Inhalation  
 Potential health effects: Acute systemic effects  
 Value: 499 mg/m<sup>3</sup>  
 End Use: Consumers  
 Exposure routes: Inhalation  
 Potential health effects: Acute local effects  
 Value: 166 mg/m<sup>3</sup>  
 End Use: Consumers  
 Exposure routes: Skin contact  
 Potential health effects: Long-term systemic effects  
 Value: 36 mg/kg  
 End Use: Consumers  
 Exposure routes: Skin contact  
 Potential health effects: Acute systemic effects  
 Value: 27 mg/kg  
 End Use: Consumers  
 Exposure routes: Ingestion  
 Potential health effects: Long-term systemic effects  
 Value: 4.3 mg/kg  
 End Use: Consumers  
 Exposure routes: Ingestion  
 Potential health effects: Acute systemic effects  
 Value: 18 mg/kg

N-Methyl-2-pyrrolidone

End Use: Workers  
 Exposure routes: Inhalation  
 Potential health effects: Long-term systemic effects  
 Value: 40 mg/m<sup>3</sup>  
 End Use: Workers

Exposure routes: Inhalation  
 Potential health effects: Acute systemic effects  
 Value: 80 mg/m<sup>3</sup>  
 End Use: Workers  
 Exposure routes: Skin contact  
 Potential health effects: Long-term systemic effects  
 Value: 19.8 mg/kg bw/day  
 End Use: Workers  
 Exposure routes: Skin contact  
 Potential health effects: Acute systemic effects  
 Value: 208 mg/kg bw/day  
 End Use: Consumers  
 Exposure routes: Inhalation  
 Potential health effects: Long-term systemic effects  
 Value: 12.5 mg/m<sup>3</sup>  
 End Use: Consumers  
 Exposure routes: Inhalation  
 Potential health effects: Acute systemic effects  
 Value: 80 mg/m<sup>3</sup>  
 End Use: Consumers  
 Exposure routes: Skin contact  
 Potential health effects: Long-term systemic effects  
 Value: 11.9 mg/kg bw/day  
 End Use: Consumers  
 Exposure routes: Skin contact  
 Potential health effects: Acute systemic effects  
 Value: 125 mg/kg bw/day  
 End Use: Consumers  
 Exposure routes: Ingestion  
 Potential health effects: Long-term systemic effects  
 Value: 6.3 mg/kg bw/day  
 End Use: Consumers  
 Exposure routes: Ingestion  
 Potential health effects: Acute systemic effects  
 Value: 26 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

2-Butoxyethyl acetate :  
 Fresh water  
 Value: 0.304 mg/l  
 Marine water  
 Value: 0.0304 mg/l  
 Intermittent use/release  
 Value: 0.56 mg/l  
 Sewage treatment plant  
 Value: 90 mg/l  
 Fresh water sediment  
 Value: 2.03 mg/kg  
 Marine sediment  
 Value: 0.203 mg/kg  
 Soil  
 Value: 0.68 mg/kg  
 Oral  
 Value: 0.06 g/kg

N-Methyl-2-pyrrolidone  
 Fresh water  
 Value: 0.25 mg/l  
 Marine water  
 Value: 0.025 mg/l  
 Intermittent use/release  
 Value: 5 mg/l  
 Sewage treatment plant

Value: 10 mg/l  
 Fresh water sediment  
 Value: 1.42 mg/kg  
 Marine sediment  
 Value: 0.142 mg/kg  
 Soil  
 Value: 0.138 mg/kg  
 Oral  
 Value: 0.00167 g/kg

8.2 Exposure controls

Engineering measures: Minimize workplace exposure concentrations.  
 Use only in an area equipped with explosion proof exhaust ventilation.  
 Use with local exhaust ventilation.

Personal protective equipment

Eye protection: Wear the following personal protective equipment:  
 Safety goggles

Hand protection

Material: Impervious gloves  
 Flame retardant gloves

Remarks: Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Skin and body protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
 Wear the following personal protective equipment:  
 Flame retardant antistatic protective clothing.  
 Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type: Organic vapour type (A)

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: liquid  
 Color: Black  
 Odor solvent-like  
 Odor Threshold: No data available  
 pH: No data available  
 Melting point/freezing point: No data available  
 Initial boiling point and boiling range: No data available  
 Flash point: 73 °C  
 Method: Seta closed cup  
 Evaporation rate: No data available



|  |  |
|--|--|
| Flammability (solid, gas)                  | Not applicable   |
| Upper explosion limit:                     | No data available  |
| Lower explosion limit:                     | No data available  |
| Vapour pressure:                           | No data available  |
| Relative vapour density:                   | No data available  |
| Density:                                   | 0.96-1.00g/cm <sup>3</sup> (25°C )                       |
| Water solubility:                          | No data available  |
| Partition coefficient:<br>n-octanol/water: | Not applicable   |
| Auto-ignition temperature:                 | No data available  |
| Thermal decomposition:                     | No data available  |
| Viscosity, dynamic:                        | No data available  |
| Explosive properties:                      | Not explosive  |
| Oxidizing properties:                      | The substance or mixture is not classified as oxidizing. |

## 9.2 Other information

No data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions: Combustible liquid.  
Vapours may form explosive mixture with air.  
Can react with strong oxidizing agents.

### 10.4 Conditions to avoid

Conditions to avoid: Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid: Oxidizing agents

### 10.6 Hazardous decomposition products

No hazardous decomposition products are known.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Information on likely routes of exposure: Inhalation, Skin contact, Ingestion, Eye contact

Acute toxicity: Harmful if swallowed or in contact with skin

Product:

Acute oral toxicity: Acute toxicity estimate: > 2,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate : > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: 1,667 mg/kg  
Method: Calculation method

## Components:

## &lt;2-Butoxyethyl acetate&gt;

Acute oral toxicity: LD50 (Rat): 1,880 mg/kg  
 Acute inhalation toxicity: Acute toxicity estimate : 20 mg/l  
 Exposure time: 4 h  
 Test atmosphere: vapour  
 Method: Expert judgement  
 Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity: LD50 (Rabbit): 1,500 mg/kg

## &lt; N-Methyl-2-pyrrolidone&gt;

Acute oral toxicity: LD50 (Rat): 4,150 mg/kg  
 Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity: LC50 (Rat): > 5.1 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity: LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation: Not classified based on available information.

## Components:

## &lt;2-Butoxyethyl acetate&gt;

Species: Rabbit  
 Result: No skin irritation

## &lt; N-Methyl-2-pyrrolidone&gt;

Species: Rabbit  
 Method: OECD Test Guideline 404  
 Result: Skin irritation

Serious eye damage/eye irritation: Causes serious eye damage.

## Components:

## &lt;2-Butoxyethyl acetate&gt;

Species: Rabbit  
 Result: No eye irritation

## &lt; N-Methyl-2-pyrrolidone&gt;

Species: Rabbit  
 Result: Irritation to eyes, reversing within 21 days

Respiratory or skin sensitization:

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

## Components:

## &lt;2-Butoxyethyl acetate&gt;

Test Type: Buehler Test  
 Exposure routes: Skin contact  
 Species: Guinea pig  
 Result: negative

## &lt; N-Methyl-2-pyrrolidone&gt;

|                           |   |
|---------------------------|---|
| Test Type:                | Local lymph node assay (LLNA)   |
| Exposure routes:          | Skin contact  |
| Species:                  | Mouse   |
| Method:                   | OECD Test Guideline 429   |
| Result:                   | negative  |
| Remarks:                  | Based on data from similar materials  |
| Germ cell mutagenicity    | Not classified based on available information.  |
| Components:               |   |
| <2-Butoxyethyl acetate>   |   |
| Genotoxicity in vitro:    | Test Type: In vitro mammalian cell gene mutation test<br>Result: negative<br>Remarks: Based on data from similar materials  |
| Genotoxicity in vivo:     | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse<br>Application Route: Intraperitoneal injection<br>Result: negative<br>Remarks: Based on data from similar materials<br>N- |
| < N-Methyl-2-pyrrolidone> |   |
| Genotoxicity in vitro:    | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: negative   |
| Genotoxicity in vivo:     | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse<br>Application Route: Ingestion<br>Method: OECD Test Guideline 474<br>Result: negative                                     |
| Carcinogenicity           | Not classified based on available information.  |
| Components:               |   |
| <2-Butoxyethyl acetate>   |   |
| Species:                  | Rat   |
| Application Route:        | inhalation (vapour)   |
| Exposure time:            | 2 Years   |
| Result:                   | negative  |
| Remarks:                  | Based on data from similar materials  |
| < N-Methyl-2-pyrrolidone> |   |
| Species:                  | Mouse   |
| Application Route:        | Ingestion   |
| Method:                   | OECD Test Guideline 451   |
| Result:                   | positive  |
| Remarks:                  | The mechanism or mode of action may not be relevant in humans.  |
| Species:                  | Rat   |
| Application Route:        | inhalation  |
| Result:                   | negative  |
| Reproductive toxicity     | May damage the unborn child   |

Components:

<2-Butoxyethyl acetate>

Effects on fertility:

Test Type: Two-generation reproduction toxicity study  
 Species: Mouse  
 Application Route: Ingestion  
 Result: negative  
 Remarks: Based on data from similar materials

Effects on foetal development

Test Type: Embryo-foetal development  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative  
 Remarks: Based on data from similar materials

< N-Methyl-2-pyrrolidone>

Effects on fertility:

Test Type: Two-generation reproduction toxicity study  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 416  
 Result: negative

Effects on foetal development

Test Type: Embryo-foetal development  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 414  
 Result: positive

Reproductive toxicity - Assessment

Test Type: Two-generation reproduction toxicity study  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 416  
 Result: positive

STOT - single exposure:

Clear evidence of adverse effects on development, based on animal experiments.  
 Not classified based on available information.

Components:

< N-Methyl-2-pyrrolidone>

Assessment:

May cause respiratory irritation.

STOT - repeated exposure:

Not classified based on available information.

< N-Methyl-2-pyrrolidone>

Exposure routes:

inhalation (vapour)

Assessment:

No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Repeated dose toxicity

Components:

<2-Butoxyethyl acetate>

Species:

Rat, male

NOAEL:

< 69 mg/kg

Application Route:

ngestion

Exposure time:

90 d

< N-Methyl-2-pyrrolidone>

Species:

Rat

NOAEL:

0.5 mg/l

Application Route: inhalation (vapour)  
 Exposure time: 90d  
 Method: OECD Test Guideline 408

Species: Rat  
 NOAEL: 169 - 217 mg/kg  
 Application Route: Ingestion  
 Exposure time: 90d  
 Method: OECD Test Guideline 408

Species: Rabbit  
 NOAEL: 826 mg/kg  
 Application Route: Skin contact  
 Exposure time: 20d

Aspiration toxicity: Not classified based on available information.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Components:

<2-Butoxyethyl acetate>

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 28 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 37 mg/l  
 Exposure time: 48 h

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)): 1,570 mg/l  
 Exposure time: 72 h  
 Method: ISO 8692

Toxicity to bacteria: IC50 : 2,800 mg/l  
 Exposure time: 16 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): EC10: 30.4 mg/l  
 Exposure time: 7 d  
 Species: Ceriodaphnia dubia (water flea)

< N-Methyl-2-pyrrolidone >

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l  
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
 Exposure time: 24 h  
 Method: DIN 38412

Toxicity to algae: EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 600.5 mg/l  
 Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC: 12.5 mg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)  
 Method: OECD Test Guideline 211

### 12.2 Persistence and degradability

Components:

<2-Butoxyethyl acetate>

Biodegradability: Result: Readily biodegradable.  
Biodegradation: 88 %  
Exposure time: 28 d

< N-Methyl-2-pyrrolidone >

Biodegradability: Result: Readily biodegradable  
Biodegradation: 73 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

### 12.3 Bioaccumulative potential

Components:

<2-Butoxyethyl acetate >

Partition coefficient: log Pow: 1.51  
n-octanol/water:

< N-Methyl-2-pyrrolidone >

Partition coefficient: log Pow: -0.46  
n-octanol/water:

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Product: Dispose of in accordance with local regulations.  
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging: Dispose of as unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not burn, or use a cutting torch on, the empty drum.

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## 14. TRANSPORT INFORMATION

### 14.1 UN number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## 15. REGULATORY INFORMATION

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

|   |  |
|---|--|
| Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:                         | Not applicable   |
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):   | N-Methyl-2-pyrrolidone   |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:  | Not applicable   |
| Regulation (EC) No 850/2004 on persistent organic pollutants:   | Not applicable   |
| Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances:          | Not applicable   |
| Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. | Not applicable   |
| Other regulations:  | Take note of Dir 94/33/EC on the protection of young people at work.<br>Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers. |
| The components of this product are reported in the following inventories:   | AICS:All ingredients listed or exempt.   |

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

## 16. OTHER INFORMATION

### Full text of R-Phrases

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.  
R36/37/38: Irritating to eyes, respiratory system and skin.  
R61: May cause harm to the unborn child.

### Full text of H-Statements

H302: Harmful if swallowed.  
H312: Harmful in contact with skin.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H332: Harmful if inhaled.  
H335: May cause respiratory irritation.  
H360D: May damage the unborn child.

### Full text of other abbreviations

|              |   |
|--------------|---|
| Acute Tox. : | Acute toxicity.   |
| Eye Irrit.:  | Eye irritation  |
| Repr.:       | Reproductive toxicity   |
| Skin Irrit.: | Skin irritation   |
| STOT SE:     | Specific target organ toxicity - single exposure.   |
| 2000/39/EC:  | Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values                    |
| 2009/161/EU: | Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation |

of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC

GB EH40: UK. EH40 WEL - Workplace Exposure Limits.  
2000/39/EC / TWA: Limit Value - eight hours.  
2000/39/EC / STEL: Short term exposure limit.  
2009/161/EU / TWA: Limit Value - eight hours  
2009/161/EU / STEL: Short term exposure limit  
GB EH40 / TWA: Long-term exposure limit (8-hour TWA reference period).  
GB EH40 / STEL: Short-term exposure limit (15-minute reference period).

Further information

Sources of key data used to compile the Safety Data Sheet:

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.