DiaPharma Group, Inc.

Material Safety Data Sheet

DiaPharma Factor X Kit
Catalog Number KDPGFX

Kit Components:

1. Calcium Chloride, 0.1 M
2. Tris/Poly Buffer, 50 mM
3. Russell’s Viper Venom
4. FXa Chromogenic Substrate

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: DiaPharma Factor X
SYNONYMS: DiaPharma FX, DPGFX, FX Kit
PRODUCT CODES: KDPGFX
MANUFACTURED FOR: DiaPharma Group, Inc.
ADDRESS: 8948 Beckett Road, West Chester, OH 45069, USA
MAIN PHONE: +1.513.860.9324
FAX: +1.513.860.9635
EMAIL: info@diapharma.com

PRODUCT USE:
For in vitro research use only. For the chromogenic measurement of factor X activity in human citrated plasma.
Material Safety Data Sheet

Section 1 Identification

Product name: 0.1M Calcium Chloride containing sodium azide
Part#: 3-020 (for inclusion in the DiaPharma Factor X kit)

Section 2 Chemical Composition/Data on Components

CAS#: 10043-52-4 Calcium Chloride
CAS#: 26628-22-8 Sodium azide

Section 3 Hazards Identification

Material is provided as a clear, colorless solution.

Potential Health Effects

Inhalation  May be harmful if inhaled. May cause respiratory tract irritation.
Skin  May be harmful if absorbed through skin. May cause skin irritation.
Eyes  May cause eye irritation.
Ingestion  May be harmful if swallowed.

Section 4 First Aid Measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 Fire Fighting Measures

Conditions of flammability
Not flammable or combustible.

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

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.
Section 6 Accidental Release Measures

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

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

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7 Handling and Storage

Store 2-8°C

Section 8 Exposure Controls & Personal Protection

Contains no substances with occupational exposure limit values.

Personal protective equipment
Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and componentstested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touchingglove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU).

Skin and body protection
impervious clothing, The type of protective equipment must be selected according to the concentration and amountof the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end ofworkday.

Section 9 Physical & Chemical Properties

Material is a clear and odorless liquid.
Section 10  Stability & Reactivity

Chemical Stability: Stable under recommended storage conditions
Conditions to avoid: no data available
Materials to avoid: strong oxidizing agents and heavy metals may form extremely explosive azides
Hazardous decomposition products: no data available

Section 11  Toxicological Information

Eyes: no data available
Skin: no data available
Ingestion: no data available
Inhalation: no data available
LD50: no data available

Section 12  Ecological Information

Data is not available

Section 13  Disposal Considerations

Dispose of according to in house procedures.

Section 14  Transport Information

Land Transport (ADR/RID): Not Regulated.
Air Transport (ICAO/IATA): Not Regulated.

Section 15  Regulatory Information

This material is considered to be non-hazardous according to OSHA standards.

Section 16  Other information

R2 Diagnostics, Inc. believes that the above information to be correct but does not purport to be all-inclusive and should be used as a guide. R2 Diagnostics, Inc. shall not be held liable for any damage resulting from the handling or contact with the above product.
Material Safety Data Sheet

Section 1 Identification

Product name: Tris/Poly Buffer
Part #: 2-105 (for inclusion in the DiaPharma Factor X kit)

Section 2 Chemical Composition/Data on Components

CAS#: 77-86-1 Trizma-Base
CAS#: 26628-22-8 Sodium azide
CAS#: 7647-14-5 Sodium chloride
CAS#: 28728-55-4 Polybrene

Section 3 Hazards Identification

Material is provided as a clear, colorless solution.

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Fluka - 08591 Page 2 of 6
Eyes May cause eye irritation.
Ingestion May be harmful if swallowed.

Section 4 First Aid Measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 Fire Fighting Measures

Conditions of flammability
Not flammable or combustible.

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

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. Nature of decomposition products not known.
Section 6  Accidental Release Measures

**Personal precautions**
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

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

**Methods and materials for containment and cleaning up**
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7  Handling and Storage

Store 2-8°C

Section 8  Exposure Controls & Personal Protection

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and componentstested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touchingglove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU).

**Skin and body protection**
impervious clothing. The type of protective equipment must be selected according to the concentration and amountof the dangerous substance at the specific workplace.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end ofworkday.

Section 9  Physical & Chemical Properties

Material is a clear and odorless liquid.
Material Safety Data Sheet

Section 10 Stability & Reactivity

Chemical Stability: Stable under recommended storage conditions
Conditions to avoid: no data available
Materials to avoid: strong oxidizing agents and heavy metals may form extremely explosive azides
Hazardous decomposition products: no data available

Section 11 Toxicological Information

Eyes: no data available
Skin: no data available
Ingestion: no data available
Inhalation: no data available
LD50: no data available

Section 12 Ecological Information

Data is not available

Section 13 Disposal Considerations

Dispose of according to in house procedures.

Section 14 Transport Information

Land Transport (ADR/RID): Not Regulated.
Air Transport (ICAO/IATA): Not Regulated.

Section 15 Regulatory Information

This material is considered to be non-hazardous according to OSHA standards.

Section 16 Other information

R2 Diagnostics, Inc. believes that the above information to be correct but does not purport to be all-inclusive and should be used as a guide. R2 Diagnostics, Inc. shall not be held liable for any damage resulting from the handling or contact with the above product.
Material Safety Data Sheet

Section 1 Identification

Product name: Russell’s Viper Venom Factor X activator
Part #: 1-001 (for inclusion in DiaPharma X kits)

Section 2 Chemical Composition/Data on Components

Snake venom component as low levels- regarded as non-hazardous
CAS#: 26628-22-8 Sodium azide

Section 3 Hazards Identification

No specific data is available for the finished product. All ingredients are classified as
non-hazardous in the concentrations present. Brief contact with intact skin should
present no significant problems. Eye contact may cause irritation in sensitive individuals.
Although unlikely, inhalation of the lyophilized product could cause reaction in
individuals sensitive to the venom component.

Section 4 First Aid Measures

No specific first aid measures normally required. Wash the affected area. If irritation
develops seek medical advice.

Section 5 Fire Fighting Measures

This product does not burn. Use extinguishing media and equipment suited to the
materials that are burning.

Section 6 Accidental Release Measures

Spills do not require special cleanup measures due to small quantities involved. Wash
contaminated clothing or any protective equipment before storing or re-using.

Section 7 Handling and Storage

Protective clothing, gloves and glasses, to guard against splashes, are recommended when
using this product. Store according to Certificate of Analysis (2-8C).

Section 8 Exposure Controls & Personal Protection

Wear appropriate personal protective gear- safety glasses and gloves for prolonged or
repeated exposure.

Section 9 Physical & Chemical Properties
Material is a white powder. Upon rehydration it is a clear liquid. No data available at this time for chemical properties.

Section 10 Stability & Reactivity

Chemical Stability: Stable
Hazardous polymerization: Does not occur
Conditions to avoid: Prolonged exposure to temperatures above 37°C.
Chemical incompatibility: Non aqueous solutions
Hazardous decomposition products: Not known

Section 11 Toxicological Information

Specific data is not available for this product. The ingredients are not classified as toxic.

Section 12 Ecological Information

Data is not available

Section 13 Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14 Transport Information

No special transport requirements.

Section 15 Regulatory Information

Non-hazardous

Section 16 Other information

r² Diagnostics, Inc. believes the above information to be correct but does not purport to be all inclusive and should be used as a guide. r² Diagnostics, Inc. shall not be held liable for any damage resulting from the handling or contact with the above product.
1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Identification of the mixture

Product Name: SUBSTRATE, S-2765, 25MG
Product Number: 00082141339

1.2 Use of the mixture:

Kit for in vitro diagnostic use.

1.3 Company identification:

MANUFACTURER:
Instrumentation Laboratory Co.
180 Harwell Road, Bedford, MA 01730-2443 (USA)
Tel. +1 800 678 0710
Fax +1 781 863 9928

DISTRIBUTOR EU:
Via Roma, 103
20040 Cavenago Brianza (Italy)

DISTRIBUTOR US/CANADA:
DiaPharma Group, Inc.
8948 Beckett Rd.
West Chester, OH 45069 (USA)

E-mail address of the competent person: infosds@mail.ilww.it

1.4 Emergency phone:

+44 (0)3700 492 795
+1 215 207 0061 (USA and Canada)

2. COMPOSITION/ INFORMATION ON PRODUCT

<table>
<thead>
<tr>
<th>P/N</th>
<th>Mixture name</th>
<th>Mixture classification</th>
<th>Mixture classification</th>
<th>Kit configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>00082141339</td>
<td>SUBSTRATE, S-2765, 25MG</td>
<td>Not Classified</td>
<td>Not Classified</td>
<td>1 x 3.0 ml</td>
</tr>
</tbody>
</table>

Disclaimer

This document is intended only as a guide to appropriate precautionary handling of this product by a trained person, or supervised by a person trained in chemical handling. The product shall not be used for purposes different from those indicated in section 1, unless having received suitable written instructions on how to handle the material. Use the product in accordance with the Good Laboratory Practice. This document cannot describe all potential dangers of use or interaction with other chemicals or materials. It is the user’s responsibility for the product’s safe use, the product’s suitability for the intended use and the product’s safe disposal. No representation or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information set forth herein or to the product to which the information refers. The contained information in this MSDS are in accordance with Annex II of Regulation no.1907/2006 (REACH) and in accordance with ANSI “Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation” (ANSI Z400.1-2004) as recommended by US OSHA.

Prepared by: Chemsafe Srl
1. IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Identification of the mixture

Product Name: SUBSTRATE, S-2765, 25MG
Product Number: 00082141339

1.2 Use of the mixture:
For in vitro diagnostic use.

1.3 Company identification:

MANUFACTURER: Instrumentation Laboratory Co.
180 Hartwell Road, Bedford, MA 01730-2443 (USA)
Tel. +1 800 678 0710
Fax +1 781 863 9929

DISTRIBUTOR EU: Via Roma, 103
20040 Cavenago Brianza (Italy)

DISTRIBUTOR US/CANADA: DiaPharma Group, Inc.
8948 Beckett Rd.
West Chester, OH 45069 (USA)

E-mail address of the competent person: infosds@mail.ilww.it

1.4 Emergency phone:
+44 (0)3700 492 795
+1 215 207 0061 (USA and Canada)

2. HAZARDS IDENTIFICATION

2.1 Mixture classification

Classified: not dangerous according to 67/548/EEC and 1999/45/EEC Directives
Classified: not hazardous according to 1272/2008/EC Regulation

2.2 Potential health and environmental effects

Ingestion: May be harmful if swallowed.
Inhalation exposure: May cause irritation.
Contact with skin: May cause irritation.
Contact with eyes: May cause irritation.
Sensitization: Might cause sensitization by inhalation or skin contact.
Environmental exposure: Might cause adverse effects for the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition: powder containing organic components.

3.1 Hazardous components:

<table>
<thead>
<tr>
<th>Name</th>
<th>EI NECS/ELINCS n°</th>
<th>CAS n°</th>
<th>Conc. % w/w</th>
<th>Classification 67/548/EEC</th>
<th>Classification 1272/2008/EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Nitroaniline (*)</td>
<td>202-810-1</td>
<td>100-01-6</td>
<td>&lt; 0.0001 %</td>
<td>T, R23/24/25 R33 RS2/53</td>
<td>Acute Tox. 3 (*), H331</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (*), H311</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (*), H301</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3, H412</td>
</tr>
</tbody>
</table>

For exposure limits see ch. 8, for phrases R and hazard statements text see ch. 16

4. FIRST AID MEASURES

Ingestion: If swallowed rinse mouth with plenty of water provided person is conscious. Get medical advice if adverse symptoms appear.

Inhalation exposure: If inhaled, move person to fresh air. Get medical advice if adverse symptoms appear.
Contact with skin: Remove contaminated clothes and shoes. Wash affected area with soap or mild detergent and plenty of water. Get medical advice if adverse symptoms appear.

Contact with eyes: Wash immediately with plenty of water or normal saline. Keep eyelid open with the finger. Get medical advice if adverse symptoms appear.

5. **FIRE-FIGHTING MEASURES**

   Suitable extinguishing means: Water spray or regular foam, CO₂, dry powder.
   Mean of extinguishing NOT to be used: Not known.
   Known hazards caused by combustion: Thermal decomposition or combustion may generate toxic and hazardous fumes (COx, NOx, HCl).
   Equipment for self-protection: Self-contained breathing apparatus, flame and chemical resistant clothing, boots and gloves.

6. **ACCIDENTAL RELEASE MEASURES**

   Personal precautions: Suitable protective clothing, rubber or polythene gloves, rubber shoes, safety glasses.
   Environmental precautions: Do not let the product enter drainage system, surface and ground-water or soil. Contact local authorities in case of environmental release. Do not empty into drains.
   Cleaning procedure to recover spilled material: Soak up with inert absorbent material, and clean with plenty of water. Send to the storage waiting for disposal procedures.

7. **HANDLING AND STORAGE**

   7.1 Handling
   Handling procedures: Wear suitable protective clothing, gloves, eye protection. When use do not eat, drink or smoke. Provide sufficient ventilation in all work areas.
   Work/Hygienic practices: Wash hands with soap and water after use.

   7.2 Storage
   Room ventilation: Well ventilated workplace.
   Special precautions: Avoid environmental release.
   (see also Section 8)
   Recommended temperature: Store at 2 - 8°C
   Humidity, light and other environmental factors: Avoid light exposure and keep away from heat sources and non compatible materials.
   Containers: Keep containers tightly closed and labelled with the name of the product.
   Other storage precautions: Keep away from food and drinks.

8. **EXPOSURE CONTROLS/ PERSONAL PROTECTION**

   8.1 Exposure limit values
   TLV/TWA (ACGIH): 3 mg/m³ (skin), 2007, related to p-Nitroaniline (¹)
   OSHA PEL: 8hr-TWA 6 mg/m³ (1 ppm) (skin), 1994, related to p-Nitroaniline (¹)
   TLV/STEL: not available
   NIOSH REL: 10hr-TWA 3 mg/m³(skin), 1992, related to p-Nitroaniline (²)
   IDLH: 300 mg/m³ related to p-Nitroaniline (²)
   EU OEL: not available
   OEL France: VME 3 mg/m³, Skin, Feb 2006, related to p-Nitroaniline (¹)
   OEL Belgium: TWA 3 mg/m³, Skin, Mar 2002, related to p-Nitroaniline (²)
   OEL France: VME 3 mg/m³, Skin, Feb 2006, related to p-Nitroaniline (¹)
   OEL Belgium: TWA 3 mg/m³, Skin, Mar 2002, related to p-Nitroaniline (²)

   8.2 Exposure Controls
   Respiratory protection: Respiratory protection is not required. Where risk assessment shows air-purifying respirators are appropriate, use masks with approved filter.
Skin protection: Protective clothing, rubber or polythene gloves.
Eye protection: Safety glasses.
Hand protection: Rubber or polythene gloves.
Other protective systems: Personal protective equipment (PPE) useful for reducing individual exposure.
Environmental protection: Avoid any release into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information
Appearance: Solid
Odor: not available
Color: not available

9.2 Important health, safety and environmental information

<table>
<thead>
<tr>
<th>Value</th>
<th>Related to</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH: not available</td>
<td></td>
</tr>
<tr>
<td>Flammability: not available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties: not available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties: not available</td>
<td></td>
</tr>
<tr>
<td>Density: not available</td>
<td></td>
</tr>
<tr>
<td>Solubility: not available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility: not available</td>
<td></td>
</tr>
</tbody>
</table>

9.3 Other information
Melting point/ range: not available

10. STABILITY AND REACTIVITY

Stability: The product is stable until the expiration date shown on the box and on the labels when stored at 2 – 8 °C

10.1 Conditions to avoid:
Keep out from heat, humidity and light.

10.2 Materials to avoid:
Strong oxidising agents.

10.3 Hazardous decomposition products:
Thermal decomposition or combustion may include toxic and hazardous fumes of COx, NOx, HCl.

11. TOXICOLOGICAL INFORMATION

11.1 Toxicokinetic effects (ADME)
Absorption: p-Nitroaniline can be absorbed by inhalation of vapors or dust and through the skin. (3)
Distribution: not available
Metabolism: not available
Excretion: p-Nitroaniline is eliminated within 3 days. Its metabolites are excreted principally in the urine and to a lesser extent in the faeces. (4)

11.2 Acute toxicity

<table>
<thead>
<tr>
<th>Value</th>
<th>m.u.</th>
<th>Effects</th>
<th>Related to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral:</td>
<td>LD50 (rat) = 750 mg/Kg</td>
<td></td>
<td>(3) p-Nitroaniline</td>
</tr>
<tr>
<td>Dermal:</td>
<td>LD50 (rat) &gt; 2,500 mg/Kg</td>
<td></td>
<td>(3) p-Nitroaniline</td>
</tr>
<tr>
<td></td>
<td>LD50 (guinea pig) &gt; 500 mg/Kg</td>
<td></td>
<td>(1) p-Nitroaniline</td>
</tr>
<tr>
<td>Inhalation:</td>
<td>LCS50 (rat) = not available mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other data:</td>
<td>TD_{0.0} inhalation (rat) = 80 mg/m3/6h/4week intermittent</td>
<td></td>
<td>(1) p-Nitroaniline</td>
</tr>
</tbody>
</table>

11.3 Irritation
Skin: Solid form of p-Nitroaniline is irritating to skin and eyes. (3)
Eye: p-Nitroaniline is mildly irritating to eyes and may cause corneal damage. (3)
Inhalation: p-Nitroaniline dust is irritating nose and throat. (3)

11.4 Sensitization:
Skin sensitization: p-Nitroaniline showed no sensitizing power on the guinea pig. (3)
Sensitization by inhalation: not available

11.5 Prolonged exposure toxicity:
The repeated exposure to p-Nitroaniline can cause methemoglobinemia and hemolysis, anemia and jaundice, liver damage. (3)

11.6 CMR effects

<table>
<thead>
<tr>
<th>Mutagenicity:</th>
<th>Ames test: mutagenic in some Salmonella strains.</th>
<th>Related to</th>
<th>p-Nitroaniline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse lymphoma:</td>
<td>not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromosomal aberration:</td>
<td>not available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronucleus test:</td>
<td>not available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Teratogenesis: Reproductive toxicity studies performed with p-Nitroaniline on rats showed: at low doses fetotoxicity associated with weight gain of the spleen, and at high doses embryotoxicity associated with maternal toxicity. (3)

Carcinogenesis: In a two-year study, the administration of p-Nitroaniline to mice by gavage showed inconclusive evidence of carcinogenic activity in male mice, based to increased incidence of hemangiomas of the liver and haemangiosarcomas or haemangiosarcomas (combined) in other locations. In female mice is not observed evidence of carcinogenic activity. (3)

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicology

<table>
<thead>
<tr>
<th>Value</th>
<th>Related to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity with fish: LC50 fish = 87.6 mg/l/96 hours</td>
<td>p-Nitroaniline (3)</td>
</tr>
<tr>
<td>Acute toxicity with Daphnia Magna: EC50 crustaceans = 24 mg/l/48 hours</td>
<td>p-Nitroaniline (3)</td>
</tr>
<tr>
<td>Acute toxicity with algae: ErC50 = not available mg/l/72 hours</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Mobility:
If released to soil, p-Nitroaniline is expected to have high mobility based upon Koc values of 54-87. If released to air, p-nitroaniline will exist in both the vapor and particulate phases in the atmosphere. If released into water, p-nitroaniline is not expected to adsorb to suspended solids and sediment based upon the Koc values. (4)

12.3 Persistence and degradability:
Volatilization of p-Nitroaniline from water and moist soil surfaces, and its hydrolysis are not expected to be an important fate process. (4)

12.4 Bioaccumulation potential:
In a 6-week bioconcentration test, the BCF of p-nitroaniline was 2.9-3.6 at a concentration of 0.5 mg/L and <10 at a concentration of 0.05 mg/L. In a bioconcentration study using zebrafish and a p-nitroaniline concentration of 0.21 umol/L, the BCF was measured to be 4.4. These experimental BCF values suggest bioconcentration in aquatic organisms is low. (4)

12.5 Evaluation PBT result: not available
12.6 Other toxic effects: not available

13. DISPOSAL CONSIDERATION
National laws on disposal must be considered, local and UE requirements for wastes recycling must be respected. Used waste product, surplus product or spillage products shall be disposed of in accordance with national, state and local laws.

14. TRANSPORT INFORMATION
Not classified for transport in accordance with ADR/RID, IMDG, IATA and DOT regulations.
15. **REGULATORY INFORMATION**

Regulatory information on labeling according to 67/548/EEC, to 1999/45/EEC Directive and to 1272/2008 Regulation (EC)(European reinforcement of GHS), and according to their following amendments/atp.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classification:</strong></td>
<td>Not classified as hazardous</td>
<td>Not classified as hazardous</td>
</tr>
<tr>
<td><strong>Labeling symbols:</strong></td>
<td>None</td>
<td>none</td>
</tr>
<tr>
<td>(signal word)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Labeling risk phrases:</strong></td>
<td>None</td>
<td>none</td>
</tr>
<tr>
<td>(hazard statements)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Labeling safety phrases:</strong></td>
<td>None</td>
<td>none</td>
</tr>
<tr>
<td>(precautionary statements)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other labeling details:** 2.86% of this mixture consist of ingredient(s) of unknown toxicity for human health and aquatic environment.

**Safety precautions:** Wear suitable protective clothing, gloves and eye/face protection.

**Authorization:** No

**Restriction:** No

16. **OTHER INFORMATION**

**Phrases R:**
- R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
- R33: Danger of cumulative effects.
- R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Hazard Statements:**
- H331: Toxic if inhaled.
- H311: Toxic in contact with skin.
- H301: Toxic in contact with skin.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H412: Harmful to aquatic life with long lasting effects.

The contained information in this MSDS are in accordance with Annex II of Regulation no.1907/2006 (REACH) and in accordance with ANSI “Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation” (ANSI Z400.1-2004) as recommended by US OSHA.

**Bibliographic references:**
1. RTECS:BY7000000 The Registry of Toxic Effects of Chemical Substances, p-Nitroaniline
2. OSHA/EPA Occupational Chemical Database - Full Report, P-NITROANILINE
4. Hazardous Substances Data Bank (HSDB), p-Nitroaniline, HSN: 1156

(*) Classification in Annex I of Dir 67/548/EEC and in Annex VI of the 1272/2008/EC Regulation