

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name	2-AB Dye
Product Catalogue Name	LT-2AB-01/03/96
CAS-No.	88-68-6
Company:	Ludger Ltd Culham Science Centre Abingdon Oxford OX14 3EB
Telephone:	01865 408554
Emergency Telephone:	01865 408554
Email:	info@ludger.com

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

Eye irritation (Category 2), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567



Signal Word: Warning

Hazard Statement(s)

H319 Causes serious eye irritation.

Precautionary Statement(s)

P264 Wash skin thoroughly after handling.

P280 Wear eye protection/ face 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.

Supplemental
Hazard Statements None

Reduced Labelling (<= 125 ml)



Signal Word Warning

Hazard statement(s) None

Precautionary
Statement(s) None

Supplemental
Hazard Statements None

2.3 Other hazard information:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3. 1 Substances

Synonyms: 2-Aminobenzamide
 Anthranilic Acid Amide
 Anthranilamide
 2-AB

Formula: C₇H₈N₂O
Molecular Weight: 136.15g/mol

Component		Classification	Concentration
Name	Anthranilamide		< = 100%
CAS-No.	88-68-6	Eye Irrit. 2; 319	
EC-No.	201-851-2		

SECTION 4. FIRST-AID MEASURES

4.1 Description of First Aid Measures

General Advice

Consult a physician if exposure causes ill effects and if in any doubt. Show this safety data sheet to the physician/ first responder in attendance.

If Ingested

Never give anything by mouth to an unconscious person. Rinse mouth well with water.

If the skin is exposed

Wash the area well with soap and water.

If eyes are exposed

Rinse well with plenty of water for 15 minutes.

If inhaled

Move the person into fresh air. If not breathing give artificial respiration.

4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated so cannot be reported.

4.3 Indication of immediate medical attention and special treatment needed

No Data available

SECTION 5. FIRE-FIGHTING MEASURES**5.1 Extinguishing media**

Use a water spray, alcohol-resistant foam, dry chemical or carbon dioxide extinguisher.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

5.3 Advice for Firefighters

Firefighters are to wear self-contained breathing apparatus if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation in work areas. Evacuate personnel to safe areas to avoid breathing dust.

6.2 Environmental Precautions

Do not let the product enter the drains.

6.3 Methods and material for containment and cleaning up

Carefully sweep up the spill without creating any dust. Contain the collected material in a sealed suitable container, to await disposal.

6.4 Reference to other sections

Please refer to section 13 for the disposal of products and spills.

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

Avoid contact with skin and eyes. Avoid the formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for fire prevention protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dark place. Keep the container tightly closed in a dry well-ventilated place.

7.3 Specific end uses

No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

8.2 Exposure controls**Appropriate engineering controls**

Handle following good laboratory and safety practices. Wash hands before entering the laboratory and at the end of the workday/ when finished handling the material.

Personal Protective Equipment

Eye / face protection

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

Skin protection

Handle wearing gloves. Gloves must be inspected before use. Use proper glove removal technique (without the glove touching the skin) to avoid skin contact with the product. Dispose of contaminated gloves as chemical dry waste following applicable laws and good laboratory practices. Wash and dry your hands. Gloves must satisfy the specifications of EU directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Laboratory coat or other types of body covering suitable for use in a laboratory.

Respiratory protection

When used under an operational fume hood no special protection is required. If required use respirators and components tested and approved under government standards such as NIOSH (US) or CEN (EU). Required level for nuisance exposure P98 (US) or P1 (EU EN 143), and higher levels of protection OV/AG/ P99 (US) or ABEK-P2 (EU EN 143).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: Crystalline
	Colour: Beige
Odour	No data available
Odour threshold	No data available
pH	No data available
Freezing/Melting Point	Melting point/range: 111-113°C
	Melting point/range: 111-113°C
Initial boiling point and boiling range	No data available
Flash Point	198°C – closed cup
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Vapour Pressure	No data available
Relative Density	No data available
Solubility in water and solvents (mg/l)	No data available
Partition coefficient: n- Octanol/water	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2 Other information

No data available

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity**

No data available

10.2 Chemical stability

No data available

10.3 Possibility of Hazardous Reactions

No data available

10.4 Conditions to Avoid

No data available

10.5 Incompatible materials

Oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects****Acute toxicity**

No data available

Skin corrosion/irritation

No data available

Serious eye damage/irritation

No data available

Respiratory or skin sensitisation

No data available

May cause sensitisation by inhalation.

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

STOT-single exposure

Inhalation – May cause respiratory irritation.

STOT-repeated exposure

No data available

Aspiration hazard.

No data available

Potential Health Hazards

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	May be harmful if absorbed through the skin. Causes skin irritation.
Eyes	Causes serious eye irritation.

Signs and symptoms of exposure

To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: CU8993000

SECTION 12. ECOLOGICAL INFORMATION**12.1 Toxicity**

No data available

12.2 Persistence and Degradability

No data available

12.3 Bio-accumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**13.1 Waste Treatment Methods**

Contact a licensed waste disposal service to collect/dispose of any waste material.

Contaminated packaging

Treat it as an unopened/ unused product.

SECTION 14. TRANSPORT INFORMATION**14.1 UN Number**

ADR/RID: - IMDG: - IATA: -

14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packing group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: No

IMDG Marine pollutant: No

IATA: No

14.6 Special precautions for user

No data available

SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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

No data available

15.2 Chemical Safety Assessment

No data available

Note that the label elements, the Risk and Safety phrases (now Hazard and Precautionary statements) that used to be in Section 15 are now in Section 2.

SECTION 16. OTHER INFORMATION

The advice offered is derived from the currently available information on the hazardous materials in this product and its component(s). Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore not all-inclusive nor should it be taken as the descriptive of the compound generally.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY / UNDER-TAKING

Product Name **Acetic Acid / dimethyl sulfoxide solution**

Product Catalogue Name **LT-ACETIC-DMSO-01/96**

Company: Ludger Ltd
Culham Science Centre
Abingdon
Oxford OX14 3EB

Telephone: 01865 408554

Emergency Telephone: 01865 408554

Email: info@ludger.com

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [EU-GHS-CLP]**

Flammable liquids (Category 3)

Skin corrosion (Category 1A)

2.2 Label elements

Signal Word: Danger

Hazard Statement(s)

H226

Flammable liquid and vapour

H314

Causes severe skin burns and eye damage.

Precautionary Statement(s)

P280

Wear proactive gloves/ protective clothing/ eye protection/ face protection.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and safe to do so. Continue rinsing.

P310

Immediately call a POISON CENTRE or doctor/ physician.

2.3 Other hazard information:

None

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**3. 1 Substances**

Synonyms:

DMSO, methyl sulfoxide, dimethyl sulfoxide
Glacial acetic acid

Formula:

DMSO: C₂H₆OS

Molecular Weight:

Acetic Acid: $C_2H_4O_2$

DMSO: 78.13 g/mol

Acetic Acid: 60.05 g/mol

Component		Concentration
Name	Dimethyl Sulfoxide	70%
CAS-No.	67-68-5	
EC-No.	200-664-3	
Name	Acetic Acid	30%
CAS-No.	64-19-7	
EC-No.	200-580-7	
Index-No.	607-002-00-6	

SECTION 4. FIRST-AID MEASURES

4.1 Description of First Aid Measures

General Advice

Consult a physician if exposure causes ill effects and if in any doubt. Show this safety data sheet to the physician/ first responder in attendance.

If Ingested

Do NOT induce vomiting. Rinse mouth well with water. Never give anything by mouth to an unconscious person.

If the skin is exposed

Remove all contaminated clothing immediately; wash the area well with plenty of soap and water.

If eyes are exposed

Flush eyes with plenty of water/ eye wash solution for at least 15 minutes, if present and safe to do so, remove contact lenses and continue rinsing.

If inhaled

Move affected person to fresh air. If not breathing give artificial respiration.

4.2 Most important symptoms and effects, both acute and delayed

Nausea, Fatigue and Headache. To our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed

No data available.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Small fires: Use extinguishing media such as "alcohol" foam, dry chemicals or carbon dioxide.

Large fires: Use extinguishing media such as water, from a faraway distance as possible. Use very large quantities of water as mist or spray to flood the fire and the combustible material. Cool all affected containers with large quantities of water.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides

5.3 Advice for Firefighters

Wear self-contained breathing apparatus for firefighting if necessary, to spray cool water on any unopened containers near the fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid breathing vapours, gas or mist. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so, e.g. with spill mats. Do not let the product enter drains.

6.3 Methods and material for containment and cleaning up

Contain the spillage and put the collected material into a suitable container with a secure lid. Wash the area well, do not let run off into the drains, and collect it as waste.

6.4 Reference to other sections

See section 13 for disposal of waste material(s).

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

Avoid inhalation of vapour or mist. Keep away from sources of ignition- No smoking. Take measures to prevent the build-up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool place. Keep the container closed in a dry well-ventilated place.

7.3 Specific end uses

No data available

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

Components with workplace control parameters.

ACETIC ACID

CAS-No.	Value	Control Parameters	Update	Basis
64-19-7	TWA	10ppm 25mg/m ³	1991-07-05	Europe. Commission Directive 91/322/EEC on establishing indicative limits on values.
Remarks	Indicative			

DMSO contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle following good laboratory hygiene and safety practices. Wash hands before breaks and at the end of the day.

Personal Protective Equipment

Eye / face protection

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

Skin protection

Handle with gloves, which should be inspected before use. Use proper glove removal technique (removal without the outside of the glove touching the skin) to avoid contact with the skin/chemical. Dispose of contaminated gloves as Laboratory waste following applicable laws and good laboratory practices. Wash and dry hands.

Gloves should be of the standard that will stratify the specifications of EU directive 89/696/EEC and the standard EN 374 derived from it.

Body Protection

The type of protective clothing must be selected according to the amount of substance at the specific workplace being used. Impervious coats or laboratory coats.

Respiratory protection

Use substance in an operation fume hood/ outside venting extraction cupboard. Wear a full-face respirator if appropriate to use, and it must be tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: Liquid, clear Colour: Colourless
Odour	Strong
Odour threshold	No data available
pH	No data available
Freezing/Melting Point	No data available
Initial boiling point and boiling range	No data available
Flash Point	No data available
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Vapour Pressure, Pa at temperature degree C	No data available
Relative Density	No data available
Solubility in water and solvents	Completely miscible
Partition coefficient: n-octanol/water	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2 Other information

No data available

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity**

No data available

10.2 Chemical stability

No data available

10.3 Possibility of Hazardous Reactions

No data available

10.4 Conditions to Avoid

Heat, flames, and sparks

10.5 Incompatible materials

Acid chlorides, Phosphorus halides, Strong oxidizing agents and strong reducing agents, soluble carbonates and phosphates, hydroxides, metals, peroxides, permanganates, e.g. potassium permanganate, Amines, and Alcohols.

10.6 Hazardous decomposition products

Other decomposition products – No data available

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects****DMSO****Acute toxicity**

LD50 Oral – Rat – 14,500mg/kg

LC50 Inhalation – Rat – 4h – 40250ppm

LD50 Dermal – Rabbit - > 5,000mg/kg

Acetic Acid**Acute toxicity**

LD50 Oral – Rat – 3,310 mg/kg

LC50 Inhalation – Mouse – 1h - 5620ppm

Remarks: Sense Organs and Special Senses (Nose, Eyes, Ears and Taste): Eyes: Conjunctive irritation.

Eyes: Other. Blood: Other changes.

LD50 Dermal – Rabbit – 1,112 mg/kg

DMSO**Skin corrosion/irritation**

Skin – Rabbit – No skin irritation – 4h

Acetic Acid**Skin corrosion/irritation**

Skin – Rabbit – Mild skin irritation – 24h

DMSO**Serious eye damage/irritation**

Eyes – Rabbit – Mild eye irritation

Acetic Acid**Serious eye damage/irritation**

Eyes – Rabbit – Corrosive to eyes.

Respiratory or skin sensitisation

May cause sensitization by skin contact.

Germ cell mutagenicity

Genotoxicity in vitro – Mouse – lymphocyte

Cytogenetic analysis

Genotoxicity in vitro – Mouse – lymphocyte

Mutation in mammalian somatic cells

Genotoxicity in vivo – Rat – Intraperitoneal

Cytogenetic analysis

Genotoxicity in vivo - Mouse – Intraperitoneal

DNA damage

Carcinogenicity

Carcinogenicity – Rat – Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Others: Tumours.

Carcinogenicity – Mouse – Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia skin and appendages: Other: Tumours.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity – Rat – Intraperitoneal

Effects on fertility: Abortion

Reproductive toxicity – Rat – Intraperitoneal

Effects on fertility: Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants).

Reproductive toxicity – Rat – Subcutaneous

Effects on fertility: Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants). Effects on fertility: Litter size (e.g. # fetuses per litter; measured before birth).

Reproductive toxicity – Mouse – Oral

Effects on fertility: Pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or fetus: Fetotoxicity (except death, e.g. stunted fetus). Specific developmental abnormalities: Musculoskeletal system.

Reproductive toxicity – Mouse – Intraperitoneal

Effects on embryo or fetus: Fetotoxicity (except death, e.g. stunted fetus). Specific developmental abnormalities: Musculoskeletal system.

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration hazard.

No data available

Potential Health Hazards

Inhalation

Harmful if inhaled. Causes serious respiratory tract irritation.

Ingestion

Harmful if swallowed. Causes burns.

Skin

May be harmful if absorbed through the skin. Causes skin burns.

Eyes

Causes eye irritation/ burns.

Aggravated Medical

Condition

Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through the skin and may carry such materials into the body.

Signs and symptoms of exposure

Nausea, Fatigue, Headache. To our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: PV6210000

RTECS: AF1225000

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

DMSO

Toxicity to Fish

LC50-Pimephales promelas (fathead minnow) – 34,000mg/l - 96h

LC50-Oncorhynchus mykiss (rainbow trout) – 34,000mg/l-96h

Toxicity to daphnia and other

Aquatic invertebrates

EC50-Daphnia pulex (water fleas) – 27,500mg/l

Toxicity to algae

EC50-Lepomis macrochirus (bluegill) - >400,000mg/l-96h

Acetic Acid

Toxicity to Fish

LC50 – Leuciscus idus (Golden Orfe) – 410.00mg/l – 48h

LC50 – Cyprinus carpio (Carp) – 49.00mg/l – 48h

LC50 – Pimephales promelas (Fathead minnow) – 79.00 - 88.00mg/l – 96h

LC50 – Lepomis macrochirus – 75mg/l – 96h

Toxicity to Daphnia and other

aquatic invertebrates.

EC50 – Daphnia magna (Water flea) – 65.00mg/l – 48h

12.2 Persistence and Degradability

Biodegradability

Remarks: Expected to be biodegradable.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

Biochemical Oxygen Demand (BOD) - 880mg/g

SECTION 13. DISPOSAL CONSIDERATIONS**13.1 Waste Treatment Methods**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber or be disposed of by a licensed professional waste disposal company.

Contaminated packaging

Dispose of it as an unused product.

SECTION 14. TRANSPORT INFORMATION**14.1 UN Number**

DMSO	ADR/RID: -	IMDG: -	IATA: -
Acetic Acid	ADR/RID: 2789	IMDG: 2789	IATA: 2789

14.2 UN Proper Shipping Name

DMSO	ADR/RID:	Not Dangerous Goods
	IMDG:	Not Dangerous Goods
	IATA:	Not Dangerous Goods
Acetic Acid	ADR/RID:	ACETIC ACID, GLACIAL
	IMDG:	ACETIC ACID, GLACIAL
	IATA:	Acetic Acid, glacial

14.3 Transport hazard class (es)

DMSO	ADR/RID: -	IMDG: -	IATA: -
Acetic Acid	ADR/RID: 8 (3)	IMDG: 8 (3)	IATA: 8 (3)

14.4 Packing group

DMSO	ADR/RID: -	IMDG: -	IATA: -
Acetic Acid	ADR/RID: II	IMDG: II	IATA: II

14.5 Environmental hazards

ADR/RID: No	IMDG Marine pollutant: No	IATA: No
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14.6 Special precautions for user

No data available

SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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

No data available

15.2 Chemical Safety Assessment

No data available

Please note that the label elements that used to go in Section 15 are now in Section 2.

SECTION 16. OTHER INFORMATION

The advice offered is derived from the currently available information on the hazardous materials in this product and its component(s). Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore not all-inclusive nor should it be taken as the descriptive of the compound generally.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name **2-Picoline Borane**

Product Catalogue Name **LT-PB-01/96**

CAS-No: **3999-38-0**

Company: Ludger Ltd
Culham Science Centre
Abingdon
Oxford OX14 3EB

Telephone: 01865 408554

Emergency Telephone: 01865 408554

Email: info@ludger.com

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Substances, which in contact with water, emit flammable gases (Category 2)

Skin irritation (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity – Single exposure (Category 3), respiratory system

2.2 Label elements

Signal Word: Danger

Hazard Statement(s)

H261 In contact with water releases flammable gas.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary Statement(s)

P231+P232 Handle under inert gas. Protect from moisture.

P261 Avoid breathing dust/ fume/gas/mist/vapours/spray.

P302 + P352 IF ON SKIN: Wash with plenty of water

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do so. Continue rinsing.

2.3 Other hazard information:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Synonyms: 2-picoline borane complex
2-Methylpyridine borane complex

Formula: $C_6H_{10}NB$
Molecular Weight: 106.96 g/mol

Component		Classification	Concentration
Name	2-picoline borane complex	Water-reac, 2; Skin Irrit. 2; Eye Irrit.2; STOT SE 3; H261, H315, H319, H335	100%
CAS-No.	3999-38-0		

SECTION 4. FIRST-AID MEASURES**4.1 Description of First Aid Measures****General Advice**

Consult a physician if exposure causes ill effects and if in any doubt. Show this safety data sheet to the physician/ first responder in attendance.

If Ingested

Never give anything by mouth to an unconscious person. Rinse mouth well with water.

If the skin is exposed

Wash the area well with soap and water. Consult a physician.

If eyes are exposed

Rinse well with plenty of water for 15 minutes and consult a physician.

If inhaled

Move the person into fresh air. If not breathing give artificial respiration. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2)

4.3 Indication of immediate medical attention and special treatment needed

No Data available

SECTION 5. FIRE-FIGHTING MEASURES**5.1 Extinguishing media**

Use a dry chemical extinguisher, as it is the only suitable extinguishing media. Do NOT use a water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x), Borane/ boron oxides.

5.3 Advice for Firefighters

Firefighters must wear self-contained breathing apparatus if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation in work areas. Evacuate personnel to safe areas to avoid breathing dust.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not let the product enter the drains.

6.3 Methods and material for containment and cleaning up

Carefully sweep up the spill without creating any dust. Contain the collected material in a sealed suitable container, to await disposal. **DO NOT USE WATER IN THE CLEANING PROCESS.**

6.4 Reference to other sections

Please refer to section 13 for the disposal of products and spills.

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

Avoid contact with skin and eyes. Avoid the formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dark place. Keep the container tightly closed in a dry well-ventilated place.

7.3 Specific end uses

No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

8.2 Exposure controls**Appropriate engineering controls**

Handle following good laboratory and safety practices. Wash hands before entering the laboratory and at the end of the workday/ when finished handling the material.

Personal Protective Equipment**Eye / face protection**

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

Skin protection

Handle wearing gloves. Gloves must be inspected before use. Use proper glove removal technique (without the glove touching the skin) to avoid skin contact with the product. Dispose of contaminated gloves as chemical dry waste following applicable laws and good laboratory practices. Wash and dry your hands. Gloves must satisfy the specifications of EU directive 2016/425 and the standard EN 374 derived from it.

Body Protection

Laboratory coat or other types of body covering suitable for use in a laboratory.

Respiratory protection

When used under an operational fume hood no special protection is required. If required use respirators and components tested and approved under government standards such as NIOSH (US) or CEN (EU). Required level for nuisance exposure P98 (US) or P1 (EU EN 143), and higher levels of protection OV/AG/ P99 (US) or ABEK-P2 (EU EN 143).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance	Form: Solid
	Colour: White
Odour	No data available
Odour threshold	No data available
pH	No data available
Freezing/Melting Point	Melting point/ range: 44 - 46°C – lit.
Initial boiling point and boiling range	No data available
Flash Point	100°C – closed cup
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Vapour Pressure	No data available
Relative Density	No data available
Solubility in water and solvents (mg/l)	No data available
Partition coefficient: n- Octanol/water	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2 Other information

No data available

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity**

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

Reacts violently with water.

10.4 Conditions to Avoid

Exposure to moisture.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Borane/boron oxides.

Other decomposition products - No data available.
In the event of fire: see section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

STOT-single exposure

Inhalation – May cause respiratory irritation.

STOT-repeated exposure

No data available

Aspiration hazard.

No data available

Signs and symptoms of exposure

To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: Not available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**13.1 Waste Treatment Methods**

Contact a licensed waste disposal service to collect/dispose of any waste material. The company should be advised of the nature of the substance, Highly Flammable.

Contaminated packaging

Treat it as an unopened/ unused product.

SECTION 14. TRANSPORT INFORMATION**14.1 UN Number**

ADR/RID: 2813

IMDG: 2813

IATA: 2813

14.2 UN Proper Shipping Name

ADR/RID: WATER-REACTIVE SOLID, N.O.S. (2-Picoline borane complex)

IMDG: WATER-REACTIVE SOLID, N.O.S. (2-Picoline borane complex)

IATA: Water-reactive solid, n.o.s. (2-Picoline borane complex)

14.3 Transport hazard class(es)

ADR/RID: 4.3

IMDG: 4.3

IATA: 4.3

14.4 Packing group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: No

IMDG Marine pollutant: No

IATA: No

14.6 Special precautions for user

No data available

SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations, and articles.

15.2 Chemical Safety Assessment

No data available

SECTION 16. OTHER INFORMATION

The advice offered is derived from the currently available information on the hazardous materials in this product and its component(s). Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore not all-inclusive nor should it be taken as the descriptive of the compound generally.