

SAFETY DATA SHEET



Battery 81 Solvent

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

1.1 Product identifier

Product name : Battery 81 Solvent
Product type : Liquid.
Other means of identification : Not available.

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

Not applicable.

1.3 Details of the supplier of the safety data sheet

AIM
9100 Henri Bourassa East
Montreal, QC
H1E 2S4
(514) 494-2000

AIM Solder Europe Sp. z.o.o.
ul. Papiernicza 7
Łódź 92-312
Poland

Safetydata@aimsolder.com : Safetydata@aimsolder.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : INFOTRAC
Europe: 0800-181-29-24
International: (352) 323-3500

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226
Acute Tox. 4, H332
Skin Corr. 1, H314
Eye Dam. 1, H318
Repr. 1B, H360Df (Unborn child and Fertility)
STOT SE 3, H335
STOT SE 3, H336
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Ingredients of unknown toxicity : 14.4 percent of the mixture consists of component(s) of unknown toxicity

Ingredients of unknown ecotoxicity : Contains 53 % of components with unknown hazards to the aquatic environment

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

SECTION 2: Hazards identification

- Classification** : R10
Repr. Cat. 2; R61
Repr. Cat. 3; R62
C; R35
Xi; R37
R67
- Physical/chemical hazards** : Flammable.
- Human health hazards** : May cause harm to the unborn child. Possible risk of impaired fertility. Causes severe burns. Irritating to respiratory system. Vapours may cause drowsiness and dizziness.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

- Hazard pictograms** :
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- Signal word** : Danger
- Hazard statements** : Highly flammable liquid and vapour.
Harmful if inhaled.
Causes severe skin burns and eye damage.
May damage the unborn child.
Suspected of damaging fertility.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

Precautionary statements

- Prevention** : Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Avoid release to the environment.
- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician. IF IN EYES: Immediately call a POISON CENTER or physician.
- Storage** : Keep cool.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazardous ingredients** : 2-methylpropan-1-ol
tetrahydro-2-furylmethanol
hydrobromic acid
Phosphoric acid
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Restricted to professional users.
- Special packaging requirements**

Battery 81 Solvent

SECTION 2: Hazards identification

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
2-methylpropan-1-ol	EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≥25 - <50	R10 Xi; R41, R37/38 R67	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1]
tetrahydro-2-furylmethanol	EC: 202-625-6 CAS: 97-99-4 Index: 603-061-00-7	≥10 - <25	Repr. Cat. 2; R61 Repr. Cat. 3; R62 Xi; R36	Acute Tox. 4, H302 Eye Irrit. 2, H319 Repr. 1B, H360Df (Unborn child and Fertility)	[1]
Hydrobromic acid	EC: 233-113-0 CAS: 10035-10-6 Index: 035-002-01-8	≥10 - <25	C; R34 Xi; R37	Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	[1] [2]
2-aminoethanol	EC: 205-483-3 CAS: 141-43-5 Index: 603-030-00-8	≥5 - <10	Xn; R22 C; R35	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	[1] [2]
Phosphoric acid	CAS: 7664-38-2	≥5 - <10	Xn; R22 C; R35 See Section 16 for the full text of the R-phrases declared above.	Aquatic Chronic 2, H411 Acute Tox. 4, H302 Skin Corr. 1, H314 Eye Dam. 1, H318 See Section 16 for the full text of the H statements declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes severe burns.
- Ingestion** : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced foetal weight
increase in foetal deaths

SECTION 4: First aid measures

- Skin contact** : skeletal malformations
: Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced foetal weight
increase in foetal deaths
skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
halogenated compounds

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b C6: Flammable (R10)	5000 5000	50000 50000

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Hydrobromic acid	EU OEL (Europe, 12/2009). Notes: list of indicative occupational exposure limit values STEL: 2 ppm 15 minutes. STEL: 6.7 mg/m ³ 15 minutes.
2-aminoethanol	EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 2.5 mg/m ³ 8 hours. TWA: 1 ppm 8 hours. STEL: 7.6 mg/m ³ 15 minutes. STEL: 3 ppm 15 minutes.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

SECTION 8: Exposure controls/personal protection

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.
Colour : Not available.
Odour : Not available.
Odour threshold : Not available.
pH : Not available.
Melting point/freezing point : Not available.

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SECTION 9: Physical and chemical properties

Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: 23 to 37.8°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: Not available.
Solubility(ies)	: Not available.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Explosive properties	: Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge. Slightly explosive in the presence of the following materials or conditions: oxidizing materials.
Oxidising properties	: Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
2-methylpropan-1-ol	LC50 Inhalation Vapour	Rat	19200 mg/m ³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
tetrahydro-2-furylmethanol	LD50 Oral	Rat	2460 mg/kg	-
	LD50 Oral	Rat	1600 mg/kg	-
Hydrobromic acid	LC50 Inhalation Gas.	Rat	2858 ppm	1 hours
2-aminoethanol	LD50 Oral	Guinea pig	620 mg/kg	-
	LD50 Oral	Mouse	700 mg/kg	-
Phosphoric acid	LD50 Oral	Rat	1720 mg/kg	-
	LD50 Oral	Rat	1720 mg/kg	-
	LD50 Dermal	Rabbit	2740 mg/kg	-
	LD50 Oral	Rat	1530 mg/kg	-

Conclusion/Summary : Not available.

Acute toxicity estimates

Route	ATE value
Oral	4365 mg/kg
Dermal	14262.9 mg/kg
Inhalation (gases)	9003.3 ppm
Inhalation (vapours)	31.89 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
tetrahydro-2-furylmethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
2-aminoethanol	Eyes - Severe irritant	Rabbit	-	250 Micrograms	-
	Skin - Moderate irritant	Rabbit	-	505 milligrams	-

Conclusion/Summary : Not available.

Sensitisation

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2-methylpropan-1-ol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Hydrobromic acid	Category 3	Not applicable.	Respiratory tract irritation
2-aminoethanol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes severe burns.
- Ingestion** : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced foetal weight
increase in foetal deaths
skeletal malformations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

Not available.

- Conclusion/Summary** : Not available.
- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.

SECTION 11: Toxicological information

- Teratogenicity** : May damage the unborn child.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : Suspected of damaging fertility.

Other information : To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2-methylpropan-1-ol	Acute LC50 600000 µg/l Marine water	Crustaceans - Artemia salina - Nauplii	48 hours
	Acute LC50 1030000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
2-aminoethanol	Acute LC50 1330000 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 4000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute EC50 8.42 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute LC50 >100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 170000 µg/l Fresh water	Fish - Carassius auratus	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2-methylpropan-1-ol	1	-	low
2-aminoethanol	-1.31	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.





Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	2924	2924	2924	2924
14.2 UN proper shipping name	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Hydrobromic acid, Isobutyl alcohol)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Hydrobromic acid, Isobutyl alcohol)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Hydrobromic acid, Isobutyl alcohol) (2-methylpropan-1-ol, Hydrobromic acid)	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Hydrobromic acid, Isobutyl alcohol)
14.3 Transport hazard class(es)	3 (8) 	3 (8) 	3 (8) 	3 (8) 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	No.	No.
Additional information	Tunnel code (D/E)	The product is only regulated as an environmentally hazardous substance when transported in tank vessels.	-	-

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Battery 81 Solvent

SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

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

[EU Regulation \(EC\) No. 1907/2006 \(REACH\)](#)

[Annex XIV - List of substances subject to authorisation](#)

[Annex XIV](#)

None of the components are listed.

[Substances of very high concern](#)

None of the components are listed.

[Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles](#) : Restricted to professional users.

[Other EU regulations](#)

Europe inventory : Not determined.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
tetrahydro-2-furylmethanol	-	-	Repr. 1B, H360D (Unborn child)	Repr. 2, H361f (Fertility)

[Seveso Directive](#)

This product is controlled under the Seveso Directive.

[Danger criteria](#)

Category

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
C6: Flammable (R10)

[International regulations](#)

[Chemical Weapon Convention List Schedules I, II & III Chemicals](#)

Not listed.

[Montreal Protocol \(Annexes A, B, C, E\)](#)

Not listed.

[Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

[Rotterdam Convention on Prior Inform Consent \(PIC\)](#)

Not listed.

[UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

[International lists](#)

[National inventory](#)

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Japan : Not determined.

Malaysia : Not determined.

New Zealand : Not determined.

SECTION 15: Regulatory information

Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
United States	: All components are listed or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Acute Tox. 4, H332	Calculation method
Skin Corr. 1, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Repr. 1B, H360Df (Unborn child and Fertility)	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements :	H226 H302 H312 H314 H315 H318 H319 H331 H332 H332 (inhalation) H335 H336 H360Df (Unborn child and Fertility) H411 H412	Flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes skin irritation. Causes serious eye damage. Causes serious eye irritation. Toxic if inhaled. Harmful if inhaled. Harmful if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May damage the unborn child. Suspected of damaging fertility. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
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Full text of classifications [CLP/GHS] :	Acute Tox. 3, H331 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Aquatic Chronic 2, H411 Aquatic Chronic 3, H412 Eye Dam. 1, H318 Eye Irrit. 2, H319 Flam. Liq. 3, H226 Repr. 1B, H360Df (Unborn child and	ACUTE TOXICITY (inhalation) - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 LONG-TERM AQUATIC HAZARD - Category 2 LONG-TERM AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 3 TOXIC TO REPRODUCTION (Unborn child and Fertility) - Category 1B
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SECTION 16: Other information

Fertility)	
Skin Corr. 1, H314	SKIN CORROSION/IRRITATION - Category 1
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
STOT SE 3, H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Full text of abbreviated R phrases : R10- Flammable.
R61- May cause harm to the unborn child.
R62- Possible risk of impaired fertility.
R22- Also harmful if swallowed.
R34- Causes burns.
R35- Causes severe burns.
R41- Risk of serious damage to eyes.
R36- Irritating to eyes.
R37- Irritating to respiratory system.
R37/38- Irritating to respiratory system and skin.
R67- Vapours may cause drowsiness and dizziness.

Full text of classifications [DSD/DPD] : Repr. Cat. 2 - Toxic to reproduction category 2
Repr. Cat. 3 - Toxic to reproduction category 3
C - Corrosive
Xn - Harmful
Xi - Irritant

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