SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier

Product Name: Deca
Use: Cleaning agent for use on quartz zinc prior to soldering.
Supplier: ALM HM, Grange House, Geddings Road, Hoddesdon, Hertfordshire, EN11 0NT
TEL: 01992 801927
Email: sales@almhm.co.uk

1.2. Composition/Information on Ingredients

Substance	C (%)	Classification	Specific Concentration	Note
Hydrogen chloride **CAS No.:** 7647-01-0 **EC No.:** 231-595-7 **IDX No.:** 017-002-00-2	20%≤C<25%	**H290:** May be corrosive to metals. **H314:** Causes severe skin burns and eye damage. **H335:** May cause respiratory irritation.	N/A	[1]
Acetic acid **CAS No.:** 64-19-7 **EC No.:** 200-580-7 **IDX No.:** 607-002-00-6	15%≤C<20%	**H226:** Flammable liquid and vapour. **H314:** Causes severe skin burns and eye damage.	N/A	[1]
Indium trichloride **CAS No.:** 10025-82-8 **EC No.:** 233-043-0	5%≤C<7%	**H302:** Harmful if swallowed. **H314:** Causes severe skin burns and eye damage.	N/A	N/A
Perchloric acid **CAS No.:** 7601-90-3 **EC No.:** 231-512-4 **IDX No.:** 017-006-00-4	3%≤C<5%	**H271:** May cause fire or explosion; strong oxidiser. **H302:** Harmful if swallowed. **H314:** Causes severe skin burns and eye damage. **H373:** May cause damage to organs through prolonged or repeated exposure.	**Skin irrit. 2; H315:** 1%≤C<10% **Skin corr. 1A; H314:** C≥50% **Eye irrit. 2; H319:** 1%≤C<10% **Skin corr. 1B; H314:** 10%≤C<50% **Ox. Liq. 2; H262:** 10%≤C<50% **Ox. Liq. 1; H272:** C≥50%	N/A

[1] Substance for which maximum workplace exposure limits are available.

SECTION 2: Hazards Identification

2.1. Classification of Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]: Met. Corr. 1
Skin Corr. 1A
STOT SE 3
Physicochemical Hazards: H290 May be corrosive to metals.
Human Health Hazards: H314 Causes severe skin burns and eye damage.
May cause respiratory irritation.
Environmental Hazards: No data available.

2.2. Label Elements

Hazard Pictograms:



Signal Word: Danger
Hazard Statements: H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
May cause respiratory irritation.

2.2.1. Precautionary Statements

P234 Keep only in original container.

Prevention: P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response: P301, P330 & P331 IF SWALLOWED, rinse mouth. DO NOT induce vomiting.
P303, P361 & P353 IF ON SKIN (or hair), take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 & P340 IF INHALED, remove person to fresh air and keep comfortable for breathing.
P305, P351 & P338 IF IN EYES, rinse cautiously with water for several minutes. If present and easy to do, remove contact lenses. Continue rinsing.
P310 Immediately call a poison centre/doctor.
P363 Wash contaminated clothing before re-use.
P390 Absorb spillage to prevent material damage.
Storage: P403 & P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
Disposal: P501 Dispose of contents and container in accordance with local regulations.
Hazardous Ingredients: Hydrogen chloride, acetic acid, indium trichloride, perchloric acid.
Supplemental Label Elements: No data available.
Annex XVII – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Mixtures and Articles: No data available.

2.3. Other Hazards

The product does not contain any substance meeting the PBT (persistent/bio accumulative/toxic) or vPvB (very persistent and very bio accumulative) criteria.

SECTION 3: First Aid Measures

3.1. Description of First Aid Measures

If the patient is in danger of becoming unconscious, place and carry the patient in a stable lateral position. Move the victim away from the danger zone. Keep warm, calm and covered. Remove contaminated clothing immediately. Do not give anything to an unconscious person. In case of poisoning, call a poison control centre or doctor for treatment advice, using the product label or packaging. Symptoms of poisoning may appear even after several hours; therefore, medical attention is required for at least 48 hours after the accident.

First Aid Measures After Inhalation: Immediate medical attention. Remove person to fresh air and allow to rest. If breathing is irregular or has stopped, give artificial respiration.
First Aid Measures After Skin Contact: Rinse with plenty of water for at least 15 minutes. Immediately remove contaminated clothing and wash before reuse or discard if necessary. Immediate medical attention.
First Aid Measures After Eye Contact: Remove contact lenses if present. Immediately rinse thoroughly under running water for at least 15 minutes, holding eyelids apart. Consult an ophthalmologist. Immediate medical attention.
First Aid Measures After Ingestion: Call a physician immediately. Do not induce vomiting as there is a danger of aspiration. Rinse mouth immediately with water. Keep victim at rest.

3.1.1. Protection of First Aiders

Rescuers must take care of their own protection.

3.2. Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms/Effects After Inhalation: No data available.
Symptoms/Effects After Skin Contact: No data available.
Symptoms/Effects After Eye Contact: No data available.
Symptoms/Effects After Ingestion: May cause severe burns of the mouth and throat, as well as a perforation of the oesophagus and stomach.

3.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

Antidote: No specific antidote known.
Special Treatment: Treat symptomatically (decontamination, vital functions).

SECTION 4: Firefighting Measures

4.1. Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide, alcohol-resistant-foam, extinguishing powder, water spray.
Unsuitable Extinguishing Media: Strong water jet.

4.2. Hazards Arising from the Substance or Mixture

Hazards from the Substance or Mixture: No data available.
Hazardous Thermal Decomposition Products: carbon oxides, chlorine compounds.

4.3. Advice for Firefighters

Special Protective Actions for Firefighters: No data available.
Special Protective Equipment for Firefighters: Appropriate respiratory equipment may be required.
Additional Information: Cool closed containers in the vicinity of a fire. Dispose of combustion residues and contaminated water in accordance with local regulations. The product itself is not combustible; determine extinguishing media based on a nearby fire. Collect contaminated extinguishing eater separately, do not allow it to enter drains or sewers.

SECTION 5: Accidental Release Measures

5.1. Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective clothing. Avoid breathing vapours. Keep away from sources of ignition. Ensure good ventilation of the premises.

5.2. Environmental Precautions

Do not discharge into drains or water. Do not discharge into the ground/subsoil. If product enters drains or sewers, notify local water company immediately; in case of contamination of streams, rivers or lakes, notify the Environment Agency.

5.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain and collect residues with non-flammable absorbent material, such as sand, earth, vermiculite, diatomaceous earth, and store in a suitable container for disposal in accordance with waste regulations.
Methods for Cleaning Up: Clean up preferably with detergent; avoid using solvents. Ensure adequate ventilation.
Other Information: No data available.

SECTION 6: Handling and Storage

6.1. Precautions for Safe Handling

Protective Measures: Ensure good ventilation of the premises, if necessary, carry out an extraction at the workplace. Do not return residual quantities to storage containers. Do not smoke, eat or drink in application areas. Comply with occupational health and safety laws. Avoid breathing vapours or sprays. Workstation should be equipped with an emergency shower and eyewash station. Avoid contact with skin, eyes, clothing. Observe normal precautionary measures when handling chemicals. To protect against fire and explosion, avoid all sources of ignition such as heat, sparks and open flames. Appropriate fire safety measures must be observed.
Hygiene Measures: Do not breathe fumes/aerosols. Eyewash fountains and safety showers should be readily available. Avoid contact with skin, eyes, clothing. Observe normal precautionary measures when handling chemicals. Remove soiled clothing and dispose of it carefully. Wash hands and/or face before breaks and after work. Keep away from food and feed.

6.2. Conditions for Safe Storage, Including any Incompatibilities

Separate from bases. Keep away from oxidizing, strongly alkaline and strongly acidic materials. Suitable materials include high density polyethylene (HDPE), low density polyethylene (LDPE), polyethylene terephthalate (PET), polypropylene. Keep container dry. Store in a cool, well-ventilated area. Avoid direct sunlight. Store only in corrosion-resistant containers. Close containers carefully after opening and store upright to prevent leakage. No smoking. No admission for unauthorised personnel. Store only in containers designated for this product. Observe warning labels. Avoid contact with metals. Keep from freezing. Store at temperatures between 0-45°C.

6.3. Specific End Use(s)

No data available.

SECTION 7: Exposure Controls/Personal Protection

7.1. Control Parameters

Occupational Exposure Limits:

Substance	Value	Unit	Type
Acetic acid **CAS:** 64-19-7 (EU)	25	mg/m³	Exposure limit (8 hours)
Acetic acid **CAS:** 64-19-7 (EU)	10	ppm	Exposure limit (8 hours)
Acetic acid **CAS:** 64-19-7 (EU)	50	mg/m³	Exposure limit (15 minutes)
Acetic acid **CAS:** 64-19-7 (EU)	20	ppm	Exposure limit (15 minutes)
Hydrogen chloride **CAS:** 7647-01-0 (EU)	8	mg/m³	Exposure limit (8 hours)
Hydrogen chloride **CAS:** 7647-01-0 (EU)	5	ppm	Exposure limit (8 hours)
Hydrogen chloride **CAS:** 7647-01-0 (EU)	15	mg/m³	Exposure limit (15 minutes)
Hydrogen chloride **CAS:** 7647-01-0 (EU)	10	ppm	Exposure limit (15 minutes)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	8	mg/m³	Exposure limit (8 hours)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	5	ppm	Exposure limit (8 hours)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	15	mg/m³	Exposure limit (15 minutes)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	10	ppm	Exposure limit (15 minutes)
Hydrogen chloride **CAS:** 7647-01-0 (GB)	2	mg/m³	Exposure limit (8 hours)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	1	ppm	Exposure limit (8 hours)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	8	mg/m³	Exposure limit (15 minutes)
Hydrogen chloride **CAS:** 7647-01-0 (IE)	5	ppm	Exposure limit (15 minutes)

Recommended Monitoring Procedures: No data available.
Air Contaminants Formed: No data available.
Control Banding: No data available.

17.1.1. DNEL & PNEC values – acetic acid

DNEL Worker

Inhalation: 25mg/m³

DNEL Consumer

Oral: 7.2mg/kg bw/day
Dermal: 72mg/kg bw/day

PNEC

PNEC Aquatic, Freshwater: 3.058mg/l
PNEC Aquatic, Marine Water: 0.3058mg/l
PNEC Aquatic, Intermittent Release: 30.58mg/l
PNEC Sediment, Freshwater: 11.36mg/kg dw
PNEC Sediment, Marine Water: 1.136mg/kg dw
PNEC Soil: 0.478mg/kg dw
PNEC Sewage Treatment Plant (STP): 85mg/l
PNEC Air: No data available.
PNEC Secondary Poisoning: No data available.

7.2. Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation. Local exhaust ventilation with good general exhaust should be used. If this is not sufficient to keep particle and vapour concentrations below workplace exposure limits, use suitable certified respirators.
Thermal Hazards: No data available.
Environmental Exposure Controls: No data available.

7.2.1. Individual Protection Measures

Personal Protective Equipment Symbol(s):



Hygiene Measures: No data available.
Hand Protection: Chemical resistant protective gloves (EN 374) fluorinated elastomer (FKM) – 0.7mm coating thickness. Protection class 6, corresponding to a permeation time of >480 minutes according to EN ISO 374-1. The protective glove must be tested for its particular suitability (e.g. mechanical strength, product compatibility, anti-static properties). Gloves should be replaced immediately if they are damaged or show signs of wear. It is recommended to use a preventive skin protection (skin cream).
Body Protection: Chemical-resistant protective clothing according to DIN EN 13034 (type 6).
Other Skin Protection: No data available.
Eye/Face Protection: Full protection safety glasses (EN 166).
Respiratory Protection: Respiratory protection in case of insufficient ventilation (combined filter EN 14387 ABEK).

SECTION 8: Physical and Chemical Properties

Physical State: Liquid.
Colour: Colourless/Yellowish.
Odour: Piquant.
Odour Threshold: No data available.
pH: 0.1
Melting Point: No data available.
Freezing Point: No data available.
Boiling Point: No data available.
Flash Point: >95°C
Evaporation Rate: No data available.
Flammability: Flame retardant.

Vapour Pressure: No data available.
Vapour Density: No data available.
Relative Density: 1.210g/cm1 (2°C)
Solubility: Dilutable.
Particion Coefficient n-octanol/water: No data available.
Auto-Ignition Temperature: No data available.
Decomposition Temperature: No data available.
Viscosity (kinematic): 6.0 Mm²/s (20°C)
Explosive Properties: No explosive properties.
Oxidising Properties: Non comburant.
Explosive Limits: No data available.
Other Information: This is not a self-heating product. Miscible with water. Flow time of <30s.

SECTION 9: Stability and Reactivity

Reactivity: No hazardous reactions if the instructions/directions for storage and handling are followed. Corrosive effect on metals.
Chemical Stability: The product is stable when the prescriptions/recommendations for storage are respected.
Possibility of Hazardous Reactions: Reaction with metals, formation of hydrogen.
Conditions to Avoid: Avoid all sources of ignition such as heat, sparks, open flames. Avoid direct sunlight. Avoid contact with metals.
Incompatible Materials: Materials to avoid include bases, highly acidic or alkaline substances such as oxidizers to avoid exothermic reactions.
Hazardous Decomposition Products: When exposed to high temperatures, hazardous decomposition products such as carbon monoxide, carbon dioxide, smoke, oxides of nitrogen may be produced. No hazardous decomposition products if storage and handling instructions are followed.

SECTION 10: Toxicological Information

10.1. Information on Toxicological Effects

Acute Toxicity: No data available.
Skin Irritation/Corrosion: No data available.
Serious Eye Damage/Irritation: No data available.
Respiratory or Skin Sensitisation: May cause severe burns of the mouth and throat if swallowed, and a risk of perforation of the oesophagus and stomach.
Germ Cell Mutagenicity: No data available.
Carcinogenicity: No data available.
Reproductive Toxicity: No data available.
Teratogenicity: No data available.
Specific Target Organ Toxicity (single exposure): May cause respiratory tract irritation.
Specific Target Organ Toxicity (repeated exposure): No data available.
Aspiration Hazard: No data available.

10.2. Information on the Likely Routes of Exposure

No data available.

10.3. Potential Acute Health Effects

Eye Contact: No data available.
Inhalation: No data available.
Skin Contact: No data available.
Ingestion: No data available.

10.4. Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Eye Contact: No data available.
Inhalation: No data available.
Skin Contact: No data available.
Ingestion: No data available.

10.5. Potential Delayed, Immediate and Chronic Effects from Short- and Long-Term Exposure

10.5.1. Short Term Exposure

Immediate Effects: No data available.
Delayed Effects: No data available.

10.5.2. Long Term Exposure

Immediate Effects: No data available.
Delayed Effects: No data available.

10.5.3. Potential Chronic Health Effects

No data available.

10.6. Conclusion/Summary

No data available.

SECTION 11: Ecological Information

Toxicity: Do not discharge into drains or water. The mixture has been assessed according to Regulation (EC) No. 1272/2008 and has not been classified as environmentally hazardous.
Persistence and Degradability: No data available.
Bio accumulative Potential: No data available.
Mobility in Soil: No data available.
Results of PBT and vPvB Assessment: The product does not contain substance meeting the PBT criterion (persistent/bio accumulative/toxic) or vPvB criterion (very persistent and very bio accumulative).
Other Adverse Effects: The product does not contain any substances listed in Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer.

SECTION 12: Disposal Considerations

12.1. Waste Treatment Methods

12.1.1. Product

Methods of Disposal: National and local regulations must be observed.
Hazardous Waste: No data available.

12.1.2. Packaging

Methods of Disposal: National and local regulations must be observed. Un-cleaned packaging. Containers that are not properly emptied must be disposed of in accordance with Directive 2008/98/EC. Used packaging must be emptied in the best possible way and disposed of like the product.
Special Precautions: No data available.

SECTION 13: Transport Information

13.1. Transport Information

	ADR/RID	ADN	IMDG	IATA
UN Number	3093	3093	3093	3093
UN Proper Shipping Name	CORROSIVE LIQUID, OXIDIZING, N.O.S.	CORROSIVE LIQUID, OXIDIZING, N.O.S.	CORROSIVE LIQUID, OXIDIZING, N.O.S.	CORROSIVE LIQUID, OXIDIZING, N.O.S.
Transport Hazard Class(es)	8	8	8	8
Packing Group	II	II	II	II
Environmental Hazards	N/A	N/A	N/A	N/AA

13.2. Special Precautions for User

Overland Transport: Tunnel restriction code E.
Transport by Sea: Not applicable.
Air Transport: Not applicable.
Inland Waterway Transport: Not applicable.
Rail Transport: Not applicable.

13.3. Transport in Bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

SECTION 14: Regulatory Information

14.1. Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

14.1.1. Regulations

Annex XVII of Regulation (EC) No. 1907/2006: Number 3 in the list.
Water Hazards Class (German AwSV of 1 August 2017): (1) Low water pollutant.

14.1.2. Container Information

No data available.

14.1.3. Provisions

No data available.

14.2. Chemical Safety Assessment

Not applicable.

SECTION 15: Other Information

The information given in this Safety Data Sheet is based on the supplier's present knowledge and on European and national regulations. This Safety Data Sheet describes safety requirements relative to identified uses, it doesn't guarantee all the product properties, particularly in the case of non-identified uses. The product mustn't be used for any uses other than those identified under heading 1. Since the user's working conditions are not known by us, it Is the responsibility of the user to take all necessary measures to comply with legal requirements for specific uses and avoid negative health effects.

15.1. Abbreviations and Acronyms

ADR: Accord eruopéen relative au transport international des marchandises Dangereuses par Route.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland.
ATE: Acute Toxicity Estimates.
CAO: Cargo aircraft only.
CAS: Chemical Abstracts Service.
CLP: Regulation on classification, labelling and packaging of substances and mixtures.
DIN: German Standards Institute.
DNEL: Derived No Effect Level.
EC50: Effective concentration 50, which causes the effect of interest for 50% of the population considered.
EC: European Community.
EN: European Standards.
IARC: International Agency for Research on Cancer.
IATA: International Air Transport Association.
IBC-Code: International Code for the Construction and Equipment of Ships Carrying Hazardous Chemicals in Bulk.
IMDG: International Maritime Code for Dangerous Goods.
ISO: International Organization for Standardisation.
LC50: Median lethal concentration.
LD50: Median lethal dose.
MARPOL: International Convention for the Prevention of Marine Pollution from Ships.
NEN: Dutch Standard.
NOEC: No Observed Effect Concentration.
OEL: Occupational Exposure Limit.
OECD: Organisation for Economic Co-operation and Development.
PBT: Persistent Bio accumulative and Toxic.
PNEC: Predicted No Effect Concentration.
PPM: Parts per million.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
UN Number: UN number for the transport of dangerous goods.
vPvB: Very persistent and very bio accumulative.

15.2. Relevant R, H and EUH Phrases

H226 / Flam. Liq. 3: Flammable liquid and vapour.
H271 / Ox. Liq. 1: May cause fire or explosion; strong oxidiser.
H290 / Met. Corr. 1: May be corrosive to metals.
H302 / Acute Tox. 4 ORAL: Harmful if swallowed.
H314 / Skin Corr. 1A: Causes severe skin burns and eye damage.
H335 / STOT SE 3: May cause respiratory irritation.
H373 / STOT RE 2: May cause damage to organs through prolonged or repeated exposure.