




Product: GAK2000 (2 part) Hardener

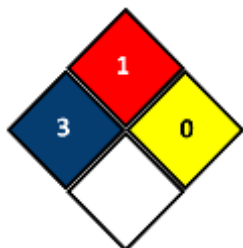
Safety data sheet. GAK2000 Hardener (part 2)
According to 1999/45/EC,2001/158/EC. 0178212 11.00 IE 01.07.2003 MSDS_IE
Section 1. Identification of the substance/mixture & of the Company/undertaking
<p><u>1.1. Product identifier.</u> Product Name: GAK2000 Hardener (use with resin) Product no. GAK2000 Resin</p> <p><u>1.2. Relevant identified uses of the substance or mixture and uses advised against.</u> Identified uses.</p> <p><u>1.3. Details of the supplier of the safety data sheet.</u> Supplier. Gauge Factors Ltd, 3 Towergate Ind. Park, Colebrook Way, Andover, Hants. UK SP10 3BB</p> <p><u>1.4. Emergency telephone number.</u> +44(0)1264 336396 between 8.30 - 4.30 Mon – Fri (not 24 hours) Email: sales@gaugefactors.com</p>
Section 2. Composition/Details on Constituents
<p>2.1 Classification of the substance or mixture.</p>  <p>Acute Tox. 4. H302 Harmful if swallowed Skin irrit. 2. H315 Causes skin irritation. Skin Sens 1. H317 May cause an allergic skin reaction. Acute Tox4. H332 Harmful in inhaled. STOT SE3 H335 May cause respiratory irritation.</p> <p>2.2 Label elements. GHS07</p>  <p>GHS05 Corrosion. Eye Dam. 1. H318 Causes serious eye damage.</p>  <p>GHS08 Health hazard. STOT RE2 H373 May cause damage to organs through prolonged or repeated exposure</p> <p><b>Signal word.</b> Harmful. Corrosive, Health hazard.</p>

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2.3. Other hazards

HMIS-ratings (scale 0-4)

HEALTH	3
FIRE	1
REACTIVITY	0



NEPA ratings (scale 0-4). Health = 3. Fire = 1. Reactivity = 0.

Other Hazards:

PBT: N/a

vPvB: N/a

Section 3. Composition/information on ingredients

3.2 Mixtures

Description: Non-hazardous materials will not be listed separately.

Components:		
1761-71-3	Amines	50- <100%
39423-51-	3Trimethylolpropane polyoxyprpylene triamine	<10%
111-40-0	Diethylenetriamine	<10%
	Proprietary	<10%
288-32-4	Imidazole	1 - <2.5%
108-95-2	Phenol	0.1 - <1%

Section 4. First Aid Measures

4.1. Description of first aid measures.

**General information:** immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; medical observation for at least 48 hours after the accident.

**Eye contact:** Rinse opened eye for several minutes under running water. Get medical attention.

**Skin contact:** Immediately wash with soap and water and rinse thoroughly. If irritated or rash appears seek medical attention.

**Inhalation:** Move to a place with fresh air and keep at rest. If unconscious call medical assistance immediately.

**Ingestion:** Do not induce vomiting. Get medical attention.

4.2 Most important symptoms and effects both acute and delayed.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after.

No further relevant information available.

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

No further relevant information available.

Section 5. Fire Fighting Measures.

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5.1. Extinguishing media.

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or mixture. No further relevant information available.

5.3 Advice for fire fighters. Wear self-contained breathing apparatus, if necessary. Mouth respiratory protective device.

Section 6. Accidental Release Measures.

6.1 personal precautions, protective equipment and emergency procedures. Not required.

6.2. Environmental precautions. Inform respective authorities in case of seepage into waterways or sewage system. Do not allow to enter sewers/surface or ground water/ water course.

6.3. Methods and material for containment and cleaning up. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.

6.4. Reference to other sections. Section 7, 8,13

Section . Handling & Storage.

7.1. Precautions for safe handling. Ensure good ventilation/exhaustion at the workplace. Handle and open receptacle with care.  
**Information about protection against explosion and fires:** Keep respiratory protective device available.

7.2. Conditions for safe storage, including any incompatibilities. Keep is sealed containers. Keep containers at room temperature.  
Recommended: keep in a cool dry condition atmosphere.

7.3. Specific end use(s): No relevant information available.

Section 8. Exposure Controls/ Personal Protection

8.1. Control parameters.

Components with limit values that require monitoring at the workplace:	
111-40-0 Diethylenetriamine	
REL	Long-term value: 4mg/m3, 1ppm Skin
TLV	Long-term value: 4.2 mg/m3, 1ppm Skin
108-95-2 Phenol	
PEL	Long-term value; 19mg/m3, 5ppm Skin
REL	Long-term value: 19mg/m3, 5ppm Ceiling limit value: 60* mg/m3, 15.6* ppm *15-min; skin
TLV	Long-term value: 19mg/m3, 5ppm Skin; BEI
Ingredients with biological limit values:	
108-95-2 Phenol	
BEI	250mg/g creatinine Urine End of shift Phenol with hydrolysis (background, nonspecific)

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8.2 Exposure controls



Protective equipment: Tightly sealed goggles  
 Process conditions: None supplied  
 Engineering measures: None supplied  
 Respiratory equipment: Do not inhale vapours or fumes. Use suitable respiratory protective device in case of insufficient ventilation.  
 Hand protection: Suitable nitrile gloves  
 Eye protection: Avoid contact with eyes. Tightly sealed goggles  
 Other protection: Avoid contact with skin.  
 Hygiene measures: No food or drink in the area. Wash hands before breaks and at the end of work. Immediately remove all soiled and contaminated clothing.

Section 9. Physical and Chemical Properties.

9.1. Information on basic physical and chemical properties.

**Appearance**

Form: Liquid  
 Colour: Transparent amber to brown  
 Odour: Amine-like

**pH Value:** Not determined

**Change in condition**

Melting point/range: N/a. Boiling point/range: Na

**Flash point:** >90°C (>194°F)

**Flammability (solid, gaseous):** N/a

**Auto igniting:** No self-igniting.

**Danger of explosion:** Does not present an explosion hazard.

**Explosion limits – Upper/Lower:** N/a

**Vapour pressure:** Not determined

**Density at 20°C (68°F):** 0.97 g/cm<sup>3</sup> (8.095 lbs/gal)

**Solubility in/miscibility with water:** Not miscible or difficult to mix.

**Solvent content: Organic solvents:** 0.4%

9.2. Other information.

No further information available.

Section 10. Stability and Reactivity.

10.1. Reactivity.

10.2. Chemical stability: Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions: None known **Hazardous reactions:** None known

10.4. Conditions to avoid: No further relevant information available.

10.5. Incompatible materials: Acids, acid anhydrides, strong oxidizing agents.

10.6. Hazardous decomposition products: Carbon oxides, nitrogen oxides, hydrogen cyanide.

Section 11. Toxicological Information.

11.1 Information on toxicological effects.

Toxicological information.

Acute toxicity: LD/LC50 values that are relevant for classification:		
1761-71-3		
Oral	LD50	625 mg/kg (Rat)
Dermal	LD50	2110 mg/kg (rabbit)
Inhalative	LC0	46mg/l (Golden orfe)
39423-51-3 Trimethylolpropane polyoxprpylene triamine		
Oral	LD50	550 mg/kg (Rat)(OECD 425)
Dermal LD50	LD50	>1000 mg/kg (Rat)(OECD Guidline 402)
Inhalative	LC50/4h	No sensitizing (G.Pig)
111-40-0 Diethylenetriamine.		

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Oral	LD50	1080 mg/kg (rat)
Dermal	LD50	1090 Mg/kg (rabbit)
288-32-4 Imidazole		
Oral	LD50	880 mg/kg (mouse) 970 mg/kg (rat)

Skin contact: Irritating to skin.

Eye contact: Strong irritant with the danger of severe eye injury.

Sensitization: Possible through skin contact.

Additional: Harmful/Irritant

Carcinogenic categories: IARC (International Agency for research on cancer)		
108-95-2	Phenol	3
NTP (National toxicology program)		
None are listed		
OSHA-Ca (Occupational safety & health administration)		
None are listed		

## 12. Ecological Information.

### 12.1 Toxicity

Toxicity: Aquatic toxicity:	
1761-71-3 Amines	
EC50/48 h	6.84 mg/l (daphnia magna)
EC50/72 h	140 - 200 mg/l (Algae)
LC50/96 h	>100mg.l (Golden orfe)
39423-51-3 Trimethylolpropane polyoxyprpylene triamine	
EC50(static)	100mg/l (activated sludge)(OECD 209) 30 min exposure 13mg/l (water fleas) (OCED 202) 48 hours
ErC50 (static)	4.4mg/l (Algae) (OECD 201) 72 hours
LC50/96 h (static)	>100mg/l (fish) (OCED 203)
NOEC (static)	1mg/l (Algae) (OECD 201) 72 hours
288-32-4 Imidazole	
EC50/48 h	341.5 mg/l (Daphnia magna)
EC50/72 h (static)	133 mg/l (Scenedesmus subspicatus)
LC50/48 h (static)	280 mg/l (golden orfe)

**Persistence and degradability:** No further information available.

**Bio-accumulative potential:** No information available.

**Mobility in soil:** No information available.

### 12.2 Additional ecological information:

Water hazard class 2. Hazardous for water.

Danger to drinking water. Do not allow product to reach ground water, water course or sewage system.

### 12.3 Results of PBT and vPvB assessment.

PBT. vPvB: N/a

### 12.4 Other adverse effects: None known

## 13. Disposal Considerations.

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13.1 Waste treatment methods.

**Recommendation:** Must not be disposed of with household waste. Do not allow product to reach sewage system.

**Disposal of packaging:** Dispose of in accordance with federal, state local and international regulations.

14. Transport Information.

U.N. Number	Not regulated for transport
Air transport IATA	Not regulated for transport
Class	Not regulated for transport
Packaging group	Not regulated for transport
Sea IMO	
Road ADR/Rail (RID)	Not regulated for transport
Transport in bulk Annex II of MARPOL73/78 & the IBC code	N/a
UN "model regulation"	-
Environmental hazards: Marine pollutant:	Yes

15. Regulatory Information.

Symbols:	Harmful, Irritant
Risk phrases:	R38, Irritating to skin. May cause sensitisation by skin contact. R65, Harmful if swallowed. Risk of serious damage to eyes. Risk of serious damage to health by prolonged exposure.
Safety phrases:	S23, Do not breathe vapour. S28, After contact with skin wash immediately with plenty of soap and water. Avoid contact with skin and eyes. Do not breathe fumes. S62, If swallowed do not induce vomiting. Seek Medical advice immediately and show this container or label.
Water hazard:	S61, Avoid release into drains

16. Other Information.

16. Other information:

This product Safety data sheet was prepared in compliance with Commission Directive 91/155/EEC, 67/548/EEC and 1999/45/EC as well as their relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labelling of dangerous substances and preparations.

This product should only be used as stated in Gauge Factors Ltd Literature. It is the responsibility of the persons in receipt of this Safety; Data Sheet to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in to contact with the product, If the recipient subsequently produces a formulation containing the Gauge Factors Ltd product, it is the recipients sole responsibility to ensure the transfer of all relevant information from the Gauge Factors Ltd Product Safety Data Sheet to their own product Safety Data Sheet in compliance with Commission directive 1999/45/EC.

All sections of this Safety Data Sheet have been amended since the previous version.

All information and instructions provided in the Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. Gauge Factors Ltd shall not be held responsible for any defect in the product covered by this SDS, should the existence of such defect not be detectable considering the current state of scientific and technical knowledge.

N/k = not known  
N/a = not applicable

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N/d = not determined

**Disclaimer:** The information provided in this Safety data sheet is consistent with the information in the Chemical safety report, as far as this information was available at the time of compilation.  
The information of this safety data sheet is based on the present state of our knowledge and on current EC and national laws, as the users' working conditions are beyond our knowledge and control. The user is always responsible for ensuring that the requirements of relevant legislation are complied with the information contained in this Safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The information provided relates only to the specific product designated and may not be valid for such product used in combination with any other product. The product must not be used for any purposes other than those specified without first obtaining written handling instructions.