

# SAFETY DATA SHEET

## FOR INDUSTRIAL USE ONLY

### Wonderbond(TM) Hrdnr M-304-L

#### Section 1. Product and company identification

**GHS product identifier** : Wonderbond(TM) Hrdnr M-304-L  
**MSDS Number** : 000000103881  
**Product type** : Catalyst  
**Material uses** : Wood Adhesives, Composites, Laminates or Related Board Products

**Manufacturer/Supplier/Importer** : Hexion Inc.  
 180 East Broad Street  
 Columbus, Ohio  
 43215 USA

**Contact person** : 4information@hexion.com

**Telephone** : For additional health and safety or regulatory information, call  
 1 888 443 9466.

**Emergency telephone number** : For Emergency Medical Assistance  
 Call Health & Safety Information Services  
 1-866-303-6949

For Emergency Transportation Information  
 CHEMTREC US Domestic (800) 424-9300  
 CHEMTREC International (703) 527-3887  
 CANUTEC CA Domestic (613) 996-6666

#### Section 2. Hazards identification

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 1  
 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [central nervous system (CNS), lungs] - Category 2

##### GHS label elements

##### Hazard pictograms



##### Signal word

##### Hazard statements

: Danger  
 : H314 Causes severe skin burns and eye damage.  
 : H318 Causes serious eye damage.  
 : H373 May cause damage to organs through prolonged or repeated exposure: (central nervous system (CNS), lungs)

**Precautionary statements**

- General** : Not applicable.
- Prevention** : Wear protective gloves.  
Wear eye or face protection.  
Wear protective clothing.  
Do not breathe vapor.  
Wash hands thoroughly after handling.
- Response** : Get medical attention if you feel unwell.  
**IF INHALED:**  
Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Immediately call a POISON CENTER or physician.  
**IF SWALLOWED:**  
Immediately call a POISON CENTER or physician.  
Rinse mouth.  
Do NOT induce vomiting.  
**IF ON SKIN (or hair):**  
Take off immediately all contaminated clothing.  
Rinse skin with water or shower.  
Wash contaminated clothing before reuse.  
Immediately call a POISON CENTER or physician.  
**IF IN EYES:**  
Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Other hazards which do not result in classification** : None known.

**Section 3. Composition/information on ingredients**

**Substance/mixture** : Mixture

Ingredient name	% by weight	CAS number
Aluminum Chloride, Hexahydrate	25 - 35	7784-13-6
Aluminum Hydroxychloride	15 - 20	1327-41-9

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 and hence require reporting in this section.

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

**Section 4. First aid measures**

**Description of necessary 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.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and 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.

**Indication of immediate medical attention and special treatment needed, if necessary**

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first aid personnel** : 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.

See toxicological information (Section 11)

## **Section 5. Fire-fighting measures**

**Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

<b>Unsuitable extinguishing media</b>	: None known.
<b>Specific hazards arising from the chemical</b>	: In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
<b>Special protective actions for fire-fighters</b>	: 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.
<b>Special protective equipment for fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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 spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: 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".
<b>Environmental precautions</b>	: Avoid dispersal of spilled 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).

### Methods and materials for containment and cleaning up

<b>Small spill</b>	: Stop leak if without risk. Move containers from spill area. 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.
<b>Large spill</b>	: Stop leak if without risk. Move containers from spill area. Approach 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 (see section 13 of SDS). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

- Protective measures** : Put on appropriate personal protective equipment (see section 8 of SDS). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. 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.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Separate from alkalis. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

<b>Section 8. Exposure controls/personal protection</b>
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**Control parameters****Occupational exposure limits**

Aluminum Chloride, Hexahydrate	<b>ACGIH TLV () Calculated as alm</b> Time Weighted Average (TWA) 2 mg/m <sup>3</sup> <b>OSHA PEL 1989 Vacated () Calculated as alm</b> Time Weighted Average (TWA) 2 mg/m <sup>3</sup>
Aluminum Hydroxychloride	<b>NIOSH REL (1994-06-01) Calculated as Al</b> Time Weighted Average (TWA) 2 mg/m <sup>3</sup> <b>ACGIH TLV () Calculated as Al</b> Time Weighted Average (TWA) 2 mg/m <sup>3</sup>

- 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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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.

### **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.
- 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.

## **Section 9. Physical and chemical properties**

### **Appearance**

- Physical state** : Liquid
- Color** : Clear, light yellow
- Odor** : Not available
- Odor threshold** : Not available

<b>pH</b>	:	1.1 @ 25 °C (77.00 °F)
<b>Melting point/ Freezing point</b>	:	Not available
<b>Boiling point</b>	:	110 °C (230.00 °F)
<b>Flash point</b>	:	Not available
<b>Burning time</b>	:	Not available
<b>Burning rate</b>	:	Not available
<b>Evaporation rate</b>	:	Not available
<b>Flammability (solid, gas)</b>	:	Not available
<b>Lower and upper explosive (flammable) limits</b>	:	<b>Lower:</b> Not available <b>Upper:</b> Not available
<b>Vapor pressure</b>	:	Not available
<b>Vapor density</b>	:	Not available
<b>Relative density</b>	:	1.3
<b>Solubility</b>	:	Not available
<b>Solubility in water</b>	:	Soluble
<b>Partition coefficient: n-octanol/water</b>	:	Not available
<b>Auto-ignition temperature</b>	:	Not available
<b>Decomposition temperature</b>	:	Not available
<b>SADT</b>	:	Not available
<b>Viscosity</b>	:	<b>Dynamic:</b> Not available  <b>Kinematic:</b> Not available

#### Other information

*The SDS is not to be used as a specification sheet. For Specific technical information on the product listed above, a sales specification sheet should be obtained from your Hexion representative.*

## Section 10. Stability and reactivity

<b>Reactivity</b>	:	Stable under normal conditions.
<b>Chemical stability</b>	:	The product is stable.
<b>Possibility of hazardous reactions</b>	:	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	:	No specific data.
<b>Incompatible materials</b>	:	Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. Reactive or incompatible with the following materials:

alkalis,

**Hazardous decomposition products :** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Aluminum Chloride, Hexahydrate	LD50 Oral	Rat	3,311 mg/kg	-
Aluminum Hydroxychloride	LD50 Oral	Rat	681 mg/kg	-

**Conclusion/Summary :** Not available

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Aluminum Chloride, Hexahydrate	Skin - Mild irritant	Human		72 hrs	-

**Conclusion/Summary**

**Skin :** Not available

**eyes :** Not available

**Respiratory :** Not available

#### Sensitization

**Conclusion/Summary**

**Skin :** Not available

**Respiratory :** 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)

Not available

#### Specific target organ toxicity (repeated exposure)



Product/ingredient name	Category	Route of exposure	Target organs
Aluminum Chloride, Hexahydrate	Category 2	OralInhalation	central nervous system (CNS) lungs

**Aspiration hazard**

Not available

**Information on the likely routes of exposure** : Not available

**Potential acute health effects**

**Eye contact** : Causes serious eye damage.  
**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.  
**Skin contact** : Causes severe burns.  
**Ingestion** : May cause burns to mouth, throat and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:  
 pain  
 watering  
 redness  
**Inhalation** : No specific data.  
**Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur  
**Ingestion** : Adverse symptoms may include the following:  
 stomach pains

**Delayed and immediate effects and also 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**

**Conclusion/Summary** : Not available

**General** : May cause damage to organs through prolonged or repeated exposure:  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity****Acute toxicity estimates**

Not available

**Section 12. Ecological information****Toxicity****Conclusion/Summary** : Not available**Persistence/degradability****Conclusion/Summary** : Not available**Mobility in soil****Soil/water partition coefficient (KOC)** : Not available**Other adverse effects** : No known significant effects or critical hazards.**Section 13. Disposal considerations**

**Disposal methods** : The generation of waste should be avoided or minimized 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Section 14. Transport information**

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

**International transport regulations**

<b>Regulatory</b>	<b>UN/NA</b>	<b>Proper shipping name</b>	<b>Classes/*PG</b>	<b>Reportable</b>
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information	number		Quantity (RQ)
<b>CFR</b>	3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Aluminum Chloride, Aluminum Chloride Hydroxide (Al(OH)Cl <sub>2</sub> ))	Class 8 III
<b>TDG</b>	3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Aluminum Chloride, Aluminum Chloride Hydroxide (Al(OH)Cl <sub>2</sub> ))	Class 8 III
<b>IMO/IMDG</b>	3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	Class 8 III
<b>IATA (Cargo)</b>	3264	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	Class 8 III

\*PG : Packing group

**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.'

## Section 15. Regulatory information

### United States

**HCS Classification** : Irritating material

**U.S. Federal regulations** : **United States - TSCA 12(b) - Chemical export notification:** None required.  
**United States - TSCA 5(a)2 - Final significant new use rules:** Not listed  
**United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed  
**United States - TSCA 5(e) - Substances consent order:** Not listed

**California Prop. 65:** : None required.

**United States inventory (TSCA 8b)** : All components are listed or exempted.

### Canada

**WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

Class E: Corrosive material

**Canadian lists**

Canadian NPRI : None required.

CEPA Toxic substances : None required.

**International regulations**

**International lists** :

- Australia inventory (AICS):** All components are listed or exempted.
- Canada inventory:** All components are listed or exempted.
- Japan inventory:** Not determined.
- China inventory (IECSC):** All components are listed or exempted.
- Korea inventory:** All components are listed or exempted.
- New Zealand Inventory (NZIoC):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.
- United States inventory (TSCA 8b):** All components are listed or exempted.
- Taiwan inventory (CSNN):** All components are listed or exempted.

<b>Section 16. Other information</b>
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**Hazardous Material Information System III (U.S.A.) :**

Health	*	2
Flammability		1
Physical hazards		0

**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Full text of abbreviated H statements : Not applicable.

**History**

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**Prepared by** : Product Safety Stewardship  
**Key to abbreviations** :
 

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

## References

UN = United Nations  
: Not available

## **Notice to reader**

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