#### **SDS Revision Date:**

05/17/2017

	1.	Identification
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1.1. Product identifier	
Product Identity	Mirror Remover Concentrate – C2055
Alternate Names	Mirror Remover Concentrate – C2055
1.2. Relevant identified uses of the substance or mix	ture and uses advised against
Intended use	Commercial mirroring.
1.3. Details of the supplier of the safety data sheet	
Company Name	Angel Gilding
	1945 Gardner Road
	Broadview IL 60155 USA
Emergency	
24 hour Emergency Telephone No.	708-383-3340
Customer Service: Angel Gilding	708-383-3340

### 2. Hazard(s) identification

#### 2.1. Classification of the substance or mixture

Acute Tox. 4;H302	Harmful if swallowed.
Skin Corr. 1B;H314	Causes severe skin burns and eye damage.
Eye Dam. 1;H318	Causes serious eye damage.
Aquatic Chronic 3;H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements



Danger

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

#### [Prevention]:

P260 Do not breathe dust / fume/ mist / vapors / spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

#### SDS Revision Date:

05/17/2017

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

#### [Response]:

P301+312 IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P330 IF SWALLOWED: Rinse mouth.

P331 Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

#### [Storage]:

P405 Store locked up.

#### [Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

### 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Ferric chloride CAS Number: 0007705-08-0	50 - 75	Acute Tox. 4;H302 Skin Corr. 1B;H314 Aquatic Chronic 3;H412	[1]
Hydrochloric acid CAS Number: 0007647-01-0	1 - 5	Skin Corr. 1B;H314 STOT SE 3;H335	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance. \*The full texts of the phrases are shown in Section 16.

### 4. First aid measures

#### 4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

SDS Revision Date:	05/17/2017
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.
4.2. Most important sy	mptoms and effects, both acute and delayed
Overview	<ul> <li>Inhalation: Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.</li> <li>Ingestion: Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea. Low toxicity in small quantities but larger doses (30 mg/kg) may cause nausea, vomiting and diarrhea. Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma and death may follow, sometimes delayed as long as three days.</li> <li>Skin Contact: Corrosive. Symptoms of redness, pain, and severe burn can occur.</li> <li>Eye Contact: Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns.</li> <li>Chronic Exposure: Repeated ingestion may cause liver damage. Prolonged exposure of the eyes may cause discoloration. See section 2 for further details.</li> </ul>
Eyes	Causes serious eye damage.
Skin	Causes severe skin burns and eye damage.
Ingestion	Harmful if swallowed.

### 5. Fire-fighting measures

#### 5.1. Extinguishing media

Water, dry chemical, foam or carbon dioxide. Do not allow water runoff to enter sewers or waterways.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Emits toxic fumes of chloride when heated to decomposition

Do not breathe dust / fume/ mist / vapors / spray.

#### 5.3. Advice for fire-fighters

In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Not considered to be a fire hazard. Irritating hydrogen chloride fumes may form in fire.

ERG Guide No. 154

### 6. Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

#### 6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

#### SDS Revision Date:

#### 05/17/2017

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

#### 6.3. Methods and material for containment and cleaning up

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

### 7. Handling and storage

#### 7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

See section 2 for further details. - [Prevention]:

#### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials: Metals, allyl chloride, sodium, potassium. Will react with water to produce toxic and corrosive fumes.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

### 8. Exposure controls and personal protection

#### 8.1. Control parameters

#### Exposure

CAS No.	Ingredient	Source	Value
0007647-01-0	Hydrochloric acid	OSHA	C 5 ppm (7 mg/m3)
		ACGIH	Ceiling: 2 ppm Revised 2003,
		NIOSH	C 5 ppm (7 mg/m3)
		Supplier	No Established Limit
0007705-08-0	Ferric chloride	OSHA	No Established Limit
	ACGIH	No Established Limit	
		NIOSH	No Established Limit
		Supplier	No Established Limit

#### 8.2. Exposure controls

Respiratory

If the exposure limit is exceeded and engineering controls are not feasible, a half face piece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the

SDS Revision Date:	05/17/2017
	maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerin, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face piece positive pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
Eyes	Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.
Skin	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear PVC or rubber gloves to keep skin contact to a minimum. Refer to the manufacturer's recommendations regarding the suitability of any gloves used.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.
See section 2 for further	details.

9. Physical and chemical properties

e section 2 for further details.

Appearance	Yellow Solution Liquid
Odor	Pungent
Odor threshold	Not determined
рН	4
Melting point / freezing point	0°C
Initial boiling point and boiling range	100 °C
Flash Point	Not Measured
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Lower Explosive Limit: Not Measured
	Upper Explosive Limit: Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	Not Measured
Solubility in Water	Complete
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	Not Measured
Density	1 (g cm-3)
9.2. Other information	
No other relevant information.	

#### **SDS Revision Date:**

05/17/2017

### 10. Stability and reactivity

#### 10.1. Reactivity

Hazardous Polymerization will not occur.

#### 10.2. Chemical stability

Stable under normal circumstances.

#### 10.3. Possibility of hazardous reactions

No data available.

#### 10.4. Conditions to avoid

Incompatibles.

#### 10.5. Incompatible materials

Metals, allyl chloride, sodium, potassium. Will react with water to produce toxic and corrosive fumes.

#### **10.6. Hazardous decomposition products**

Emits toxic fumes of chloride when heated to decomposition

### **11. Toxicological information**

#### Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Ferric chloride - (7705-08-0)	No data available	No data available	No data available	No data available	No data available
Hydrochloric acid - (7647-01-0)	900.00, Rabbit - Category: 4	5,010.00, Rabbit - Category: NA	781.00, Mouse - Category: NA	No data available	3,124.00, Rat - Category: 4

#### Carcinogen Data

CAS No.	Ingredient	Source	Value
0007647-01-0	Hydrochloric acid	OSHA	Regulated Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;
0007705-08-0	Ferric chloride	OSHA Regulated Carcinogen: No	
		NTP Known: No; Suspected: No	
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

Classification	Category	Hazard Description
Acute toxicity (oral)	4	Harmful if swallowed.
Acute toxicity (dermal)		Not Applicable
Acute toxicity (inhalation)		Not Applicable

#### SDS Revision Date:

#### 05/17/2017

Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization		Not Applicable
Skin sensitization		Not Applicable
Germ cell mutagenicity		Not Applicable
Carcinogenicity		Not Applicable
Reproductive toxicity		Not Applicable
STOT-single exposure		Not Applicable
STOT-repeated exposure		Not Applicable
Aspiration hazard		Not Applicable

### **12. Ecological information**

#### 12.1. Toxicity

Harmful to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

#### **Aquatic Ecotoxicity**

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Ferric chloride - (7705-08-0)	Not Available	Not Available	Not Available
Hydrochloric acid - (7647-01-0)	282.00, Gambusia affinis	260.00, Crangon crangon	Not Available

#### 12.2. Persistence and degradability

There is no data available on the preparation itself.

#### 12.3. Bioaccumulative potential

Not Measured

#### 12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

#### 12.6. Other adverse effects

No data available.

### 13. Disposal considerations

#### 13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

**SDS Revision Date:** 

05/17/2017

### 14. Transport information

# DOT (Domestic Surface Transportation)

14.1. UN number	UN3264	
14.2. UN proper shipping name	UN3264, Corrosive liquid, acidic, inorganic, n.o.s., (FERRIC CHLORIDE), 8, III	
14.3. Transport hazard class(es)	DOT Hazard Class: 8	
14.4. Packing group	111	
14.5. Environmental hazards		
IMDG	Marine Pollutant: No;	
14.6. Special precautions for user		
	No further information	

IMO / IMDG (Ocean Transportation) UN3264 Corrosive liquid, acidic, inorganic, n.o.s., (FERRIC CHLORIDE) IMDG: 8 Sub Class: Not Applicable III

#### ICAO/IATA

UN3264 Corrosive liquid, acidic, inorganic, n.o.s., (FERRIC CHLORIDE) **Air Class:** 8

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### 15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.		
Toxic Substance Control Act ( TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.		
WHMIS 1988 Classification	D2B E		
US EPA Tier II Hazards	Fire: No		
Sudden Release of Pressure: No			
	Reactive: No		
	Immediate (Acute): Yes		
	Delayed (Chronic): No		
EPCRA 302 Extremely I	Hazardous:		
Hydrochloric acid			
EPCRA 313 Toxic Chen	nicals:		
Hydrochloric acid			

#### SDS Revision Date:

#### 05/17/2017

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

#### Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

#### Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **16. Other information**

#### **SDS Revision Date** 05/17/2017

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

IMPORTANT NOTE: This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or any process. Final determination of suitability of any material is the sole responsibility of the user.

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