



Issuing Date December 29, 2009

Revision Date December 28, 2009

Revision Number 12

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name AC-@360 Catalyst
Product Code(s) AC-360 Catalyst
UN-No Not regulated
Recommended Use Hardener .
Company Advanced Chemistry & Technology, Inc.
7341 Anaconda Avenue
Garden Grove, CA 92841
Company Emergency Phone Number 714-373-2839 (8 AM to 5 PM Pacific)
Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

CAUTION!

Emergency Overview

May be harmful if inhaled
May cause skin, eye, and respiratory tract irritation
May be harmful if swallowed

Appearance Dark brown, Viscous liquid

Physical State Viscous liquid

Odor Slight

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects

Principle Routes of Exposure Eye contact, Skin contact, Ingestion

Acute Toxicity

Eyes May cause slight irritation.
Skin Substance may cause slight skin irritation.
Inhalation May cause irritation of respiratory tract.
Ingestion May be harmful if swallowed.

Chronic Effects Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

Main Symptoms Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Aggravated Medical Conditions Liver disorders. Kidney disorders. Central nervous system.

Interactions with Other Chemicals No information available.

Environmental Hazard May cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | Weight % |
|-------------------------|------------|----------|
| Hydrogenated terphenyls | 61788-32-7 | 35 - 40 |
| Terphenyls | 26140-60-3 | 1 - 5 |
| Manganese dioxide | 1313-13-9 | 45 - 50 |

4. FIRST AID MEASURES

| | |
|-----------------------------------|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist. |
| Skin Contact | Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Remove and wash contaminated clothing before re-use. |
| Inhalation | Move to fresh air. If symptoms persist, call a physician. If breathing is irregular or stopped, administer artificial respiration. |
| Ingestion | Do not induce vomiting without medical advice. Consult a physician. Never give anything by mouth to an unconscious person. |
| Notes to Physician | Treat symptomatically. |
| Protection of First-aiders | Avoid contact with skin, eyes and clothing. |

5. FIRE-FIGHTING MEASURES

| | |
|--|--|
| Flash Point Method | > 110 °C / > 230 °F Closed cup |
| Suitable Extinguishing Media | Dry chemical, CO ₂ , water spray or alcohol-resistant foam. |
| Hazardous Combustion Products | Carbon oxides, Carbon monoxide, Carbon dioxide (CO ₂) |
| Explosion Data | |
| Sensitivity to Mechanical Impact | Not sensitive. |
| Sensitivity to Static Discharge | Not sensitive. |
| Specific Hazards Arising from the Chemical | In the event of fire and/or explosion do not breathe fumes. Do not allow run-off from fire fighting to enter drains or water courses. |
| Protective Equipment and Precautions for Firefighters | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. |

| | | | | |
|-------------|------------------------|-----------------------|--------------------|--|
| NFPA | Health Hazard 1 | Flammability 1 | Stability 0 | Physical and Chemical Hazards N/A |
|-------------|------------------------|-----------------------|--------------------|--|

6. ACCIDENTAL RELEASE MEASURES

| | |
|--------------------------------|---|
| Personal Precautions | Avoid contact with skin, eyes and clothing. |
| Methods for Containment | Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). |
| Methods for Cleaning Up | Prevent product from entering drains. Take up mechanically and collect in suitable container for disposal. Use personal protective equipment. |

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

Storage Keep tightly closed in a dry and cool place. Keep away from heat and sources of ignition. Keep at temperatures below 28°C..

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------------------------------|----------------------------|--|--|
| Hydrogenated terphenyls 61788-32-7 | TWA: 0.5 ppm | (vacated) TWA: 0.5 ppm (vacated) TWA: 5 mg/m ³ | TWA: 0.5 ppm TWA: 5 mg/m ³ |
| Terphenyls 26140-60-3 | | (vacated) Ceiling: 0.5 ppm (vacated) Ceiling: 5 mg/m ³ Ceiling: 1 ppm Ceiling: 9 mg/m ³ | IDLH: 500 mg/m ³ |
| Manganese dioxide 1313-13-9 | TWA: 0.2 mg/m ³ | (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ | IDLH: 500 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³ |

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Personal Protective Equipment

Eye/Face Protection

Safety glasses with side-shields.

Skin and Body Protection

Wear protective gloves/clothing. Wear latex or Nitrile gloves.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------------------|---------------------------|-----------------------------------|--------------------------|
| Appearance | Dark brown Viscous liquid | Odor | Slight |
| Physical State | Viscous liquid | pH | Not applicable |
| Flash Point | > 110 °C / > 230 °F | Method | Closed cup |
| Autoignition Temperature | No information available | Boiling Point/Range | Not applicable |
| Explosion Limits | No information available | Flammability Limits in Air | No information available |
| Specific Gravity | 1.58 | Solubility | Slightly soluble |
| Evaporation Rate | No information available | Vapor Pressure | No information available |
| Vapor Density | Heavier than air | Weight per Gallon (lbs) | 13.2 |
| Actual VOC (lb/gal) | 0 | EPA VOC (lb/gal) | 0 |
| EPA VOC (g/l) | 0 | | |

10. STABILITY AND REACTIVITY

Stability Stable.

Incompatible Products Acids. Strong reducing agents.

Conditions to Avoid Excessive heat.

Hazardous Decomposition Products Carbon oxides. Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------------|---------------------|------------------------|----------------------|
| Hydrogenated terphenyls | 10200 mg/kg (Rat) | 6800 mg/kg (Rabbit) | 4.3 mg/L (Rat) 4 h |
| Terphenyls | | 12500 mg/kg (Rabbit) | |
| Manganese dioxide | 9000 mg/kg (Rat) | | |

Chronic Toxicity

Chronic Toxicity Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Target Organ Effects Liver, Kidney, Skin, Central nervous system (CNS)

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated. May cause long-term adverse effects in the aquatic environment.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Microtox | Daphnia Magna (Water Flea) |
|-------------------------|-----------------------|---|----------|----------------------------|
| Hydrogenated terphenyls | EC50 > 0.53 mg/L 96 h | LC50> 0.53 mg/L <i>Lepomis macrochirus</i> 96 h LC50> 0.53 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50> 0.53 mg/L <i>Pimephales promelas</i> 96 h | | EC50 = 0.011 mg/L 48 h |
| Terphenyls | EC50 = 0.02 mg/L 96 h | LC50> 0.11 mg/L <i>Lepomis macrochirus</i> 96 h LC50> 0.11 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50> 0.11 mg/L <i>Pimephales promelas</i> 96 h | | EC50 > 0.11 mg/L 48 h |

Persistence and Degradability No data is available on the product itself.

| Chemical Name | Log Pow |
|-------------------|-----------|
| Manganese dioxide | < 0 20 °C |

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

| Chemical Name | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|--------------------------------------|--------------------------------------|------------------------|------------------------|------------------------|
| Hydrogenated terphenyls - 61788-32-7 | | | | |
| Terphenyls - 26140-60-3 | | | | |
| Manganese dioxide - 1313-13-9 | | | | |

14. TRANSPORT INFORMATION

DOT Not regulated
UN-No Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL Complies
EINECS/ELINCS Complies
ENCS Does not Comply
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|-------------------|-----------|----------|-------------------------------|
| Manganese dioxide | 1313-13-9 | 45 - 50 | 1.0 |

SARA 311/312 Hazard Categories

Acute Health Hazard No
Chronic Health Hazard Yes
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act.

| Chemical Name | CAS-No | Weight % | HAPS data | VOC Chemicals | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-------------------|-----------|----------|--|---------------|-------------------------|-------------------------|
| Manganese dioxide | 1313-13-9 | 45 - 50 | Present (includes any unique chemical substance that contains Manganese as part of its infrastructure) | | | |

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

| Chemical Name | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------------|---------------|------------|--------------|----------|--------------|
| Hydrogenated terphenyls | X | | X | | |
| Terphenyls | X | X | X | | |
| Manganese dioxide | | X | X | X | |

International Regulations

Mexico - Grade

Slight risk, Grade 1

| Chemical Name | Carcinogen Status | Exposure Limits |
|-------------------------|-------------------|--|
| Hydrogenated terphenyls | | Mexico: TWA= 0.5 ppm Mexico: TWA= 5 mg/m ³ |
| Terphenyls | | Mexico: Ceiling= 0.5 ppm |
| Manganese dioxide | | Mexico: TWA= 0.2 mg/m ³ |

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.



WHMIS Hazard Class

D2B Toxic materials



| Chemical Name | NPRI |
|-------------------|------|
| Manganese dioxide | X |

16. OTHER INFORMATION

| NFPA | HMIS | PPE | Transport Symbol | | | | | | |
|---|--|---------------|------------------|-------------|---|------------|---|--|---------------|
|  | <table border="1" style="border-collapse: collapse;"> <tr> <td style="background-color: #0000FF; color: white;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FF0000; color: white;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> </table> | Health Hazard | 1 | Fire Hazard | 1 | Reactivity | 0 |  | Not regulated |
| Health Hazard | 1 | | | | | | | | |
| Fire Hazard | 1 | | | | | | | | |
| Reactivity | 0 | | | | | | | | |

Prepared By David Jordan
 Director of R&D

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Revision Note (M)SDS sections updated. 1. 16.

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS