

Material Safety Data Sheet

401-008 CHEMSEAL (SYSTEM 66)

1. Product and company identification

| | |
|-----------------------------|---|
| Common name | : 401-008 CHEMSEAL (SYSTEM 66) |
| Synonym | : CHEMSEAL (SYSTEM 66) |
| Material uses | : Coatings: Surface coatings and finishes. |
| Manufacturer | : Chemcraft International, Inc. 155 Rose Glen Road North Port Hope, Ontario, Canada L1A 3Z3 Ph:905-885-6388 Fax:905-885-7587 |
| Code | : 401-008 |
| Validation date | : 12/29/2005. |
| Print date | : 1/26/2006. |
| Responsible name | : A. Davis |
| In case of emergency | : 1-613-996-6666 |

2. Hazards identification

| | |
|------------------------|---|
| Physical state | : Liquid. |
| OSHA/HCS status | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |

OSHA: Standard for Occupational Exposure to Formaldehyde 29CFR 1910.1048 must be consulted before initial use of product.

| | |
|---------------------------|--|
| Emergency overview | : Danger! MAY BE FATAL IF INHALED. CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, NERVOUS SYSTEM, LIVER. SUSPECT CANCER HAZARD. CONTAINS MATERIAL WHICH MAY CAUSE CANCER. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Risk of cancer depends on duration and level of exposure. |
|---------------------------|--|

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

| | |
|---|---|
| Eyes | : No known significant effects or critical hazards. |
| Skin | : No known significant effects or critical hazards. |
| Inhalation | : Very toxic by inhalation. |
| Ingestion | : No known significant effects or critical hazards. |
| Potential chronic health effects | : CARCINOGENIC EFFECTS: Classified A5 (Not suspected for humans.) by ACGIH, 4 (Probably not for humans.) by IARC, None. by OSHA [2-Propanone]. Classified D (Not classifiable for humans or animals.) by EPA [2-Propanone]. Classified A2 (Suspected for humans.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Classified None. for humans [2-Propanone]. |

Medical conditions aggravated by over-exposure : Repeated or prolonged exposure to the substance can produce target organs damage.

See toxicological information (section 11)

3 . Composition/Information on ingredients

| <u>Name</u> | <u>CAS number</u> | <u>%</u> |
|------------------------|-------------------|----------|
| Benzene, methyl- | 108-88-3 | 30 - 50 |
| 2-Pentanone, 4-methyl- | 108-10-1 | 15 - 30 |
| 1-Propanol, 2-methyl- | 78-83-1 | 5 - 15 |
| 2-Propanone | 67-64-1 | 5 - 15 |
| Benzene, dimethyl- | 1330-20-7 | 1 - 5 |
| Silica | 7631-86-9 | 1 - 5 |
| Benzene, ethyl- | 100-41-4 | 0.1 - 1 |
| Formaldehyde | 50-00-0* | 0.1 - 1 |

4 . First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. 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. 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.
- Protection of first-aiders** : 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.

5 . Fire-fighting measures

- Flammability of the product** : Flammable.
- Products of combustion** : These products are carbon oxides (CO, CO₂). Some metallic oxides.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : No specific hazard.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Fire Hazards in Presence of Various Substances**

5 . Fire-fighting measures

- : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Non-flammable in the presence of the following materials or conditions: oxidizing materials, reducing materials, combustible materials and moisture.

Explosion Hazards in Presence of Various Substances

- : Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge.

6 . Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

7 . Handling and storage

- Handling** : Keep container closed. Use only with adequate ventilation. Do not breathe vapor or mist.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, 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.

Personal protection



- Eyes** : 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.
- Skin** : 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.
- Respiratory** : 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.
- Hands** : 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.
- 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.

9 . Physical and chemical properties

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|-----------------------------------|--|
| Physical state | : Liquid. |
| Flash point | : The lowest known value is Closed cup: -18°C (-0.4°F). (T.C.C.). (2-Propanone) |
| Auto-ignition temperature | : The lowest known value is 416°C (780.8°F) (1-Propanol, 2-methyl-). |
| Flammable limits | : The greatest known range is Lower: 2.6% Upper: 12.8% (2-Propanone) |
| Boiling/condensation point | : The lowest known value is 56.2°C (133.2°F) (2-Propanone). Weighted average: 108.14°C (226.7°F) |
| Melting/freezing point | : May start to solidify at -83°C (-117.4°F) based on data for: 2-Pentanone, 4-methyl-. Weighted average: -93.87°C (-137°F) |
| Relative density | : Weighted average: 0.87 (Water = 1) |
| Vapor pressure | : The highest known value is 24.1 kPa (181 mm Hg) (at 20°C) (2-Propanone). Weighted average: 3.9 kPa (29.25 mm Hg) (at 20°C) |
| Vapor density | : The highest known value is 3.7 (Air = 1) (Benzene, dimethyl-). Weighted average: 3.07 (Air = 1) |
| Odor threshold | : The lowest known value is 0.1 ppm (2-Pentanone, 4-methyl-) Weighted average: 0.58 ppm |
| Evaporation rate | : The highest known value is 1.6 (2-Pentanone, 4-methyl-) Weighted average: 1.26 compared with Butyl acetate. |
| Dispersibility properties | : Not dispersible in cold water, hot water, methanol. See solubility in methanol, diethyl ether, n-octanol, acetone. |
| Solubility | : Easily soluble in methanol, diethyl ether, acetone. Soluble in n-octanol. Insoluble in cold water, hot water. |

10 . Stability and reactivity

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|--|---|
| Stability and reactivity | : The product is stable. |
| Incompatibility with various substances | : Highly reactive or incompatible with the following materials: oxidizing materials. Reactive or incompatible with the following materials: reducing materials, organic materials, metals, acids and alkalis. Non-reactive or compatible with the following materials: combustible materials and moisture. |
| Conditions of reactivity | : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. Non-flammable in the presence of the following materials or conditions: oxidizing materials, reducing materials, combustible materials and moisture. Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge. |

11 . Toxicological information

Toxicity data

| <u>Product/ingredient name</u> | <u>Test</u> | <u>Result</u> | <u>Route</u> | <u>Species</u> |
|--------------------------------|-------------|----------------------------|--------------|----------------|
| 2-Pentanone, 4-methyl- | LD50 | 21000 mg/kg | Oral | Rat |
| | LD50 | 2850 mg/kg | Oral | Mouse |
| | LD50 | 20001 mg/kg | Dermal | Rabbit |
| 1-Propanol, 2-methyl- | LD50 | 2500 mg/kg | Oral | Rat. |
| | LD50 | 3200 mg/kg | Oral | Mouse |
| | LD50 | 4200 mg/kg | Dermal | Rabbit. |
| 2-Propanone | LD50 | 5800 mg/kg | Oral | Rat |
| | LD50 | 3000 mg/kg | Oral | Mouse |
| | LD50 | 20000 mg/kg | Dermal | Rabbit. |
| | LC50 | 50100 mg/m ³ (8 | Inhalation | Rat |

11 . Toxicological information

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|------------------------------------|------|--|------------|--------|
| | LC50 | hour/hours) 44000 mg/m ³ (4 hour/hours) | Inhalation | Mouse |
| Benzene, dimethyl- Formaldehyde | LD50 | 4300 mg/kg | Oral | Rat. |
| | LD50 | 100 mg/kg | Oral | Rat |
| | LD50 | 270 mg/kg | Dermal | Rabbit |

Chronic effects on humans : **CARCINOGENIC EFFECTS:** Classified A5 (Not suspected for humans.) by ACGIH, 4 (Probably not for humans.) by IARC, None. by OSHA [2-Propanone]. Classified D (Not classifiable for humans or animals.) by EPA [2-Propanone]. Classified A2 (Suspected for humans.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde].

TERATOGENIC EFFECTS: Classified None. for humans [2-Propanone].
Contains material which causes damage to the following organs: blood, kidneys, lungs, the nervous system, liver.

Other toxic effects on humans : Very hazardous in case of skin contact (permeator), of ingestion, of inhalation.

Special remarks on toxicity to animals : Formaldehyde has caused cancer in test animals at high concentrations (5-15 ppm). (Formaldehyde)

Special remarks on chronic effects on humans : Inhalation of vapors may cause dizziness, an irregular heartbeat, narcosis, nausea or asphyxiation. (Benzene, methyl-)

Special remarks on other toxic effects on humans : Exposure can cause lung irritation, chest pain and oedema which may be fatal. (Benzene, methyl-)

Specific effects

Carcinogenic effects : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

Sensitization

Ingestion : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Skin : No known significant effects or critical hazards.

12 . Ecological information

Environmental precautions : No known significant effects or critical hazards.

Octanol/water partition coefficient : The product is much more soluble in octanol.

Bioconcentration factor : Not available.

Products of degradation : These products are carbon oxides (CO, CO₂) and water. Some metallic oxides.

Toxicity of the products of biodegradation : The product itself and its products of degradation are not toxic.

13 . Disposal considerations


Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

| Regulatory information | UN number | Class | PG* | Label | Additional information |
|------------------------|------------|-------|-----|---|------------------------|
| TDG Classification | 1263 PAINT | 3 | II |  | - |

PG* : Packing group

15 . Regulatory information

United States

HCS Classification

: Highly toxic material
Carcinogen
Target organ effects

U.S. Federal regulations

: TSCA 5(e) substance consent order: Acetic Acid, Butyl Ester
TSCA 8(b) inventory: Benzene, methyl-; Benzene, ethyl-; Benzene, dimethyl-; Acetic Acid, Butyl Ester; N-Butyl Alcohol
TSCA 8(d) H and S data reporting: Benzene, ethyl-
TSCA 12(b) annual export notification: Acetic Acid, Butyl Ester
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Benzene, methyl-: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Isobutyl alcohol: Fire hazard, Delayed (chronic) health hazard; Benzene, dimethyl-: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: Benzene, ethyl-
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

15. Regulatory information

State regulations : Illinois toxic substances disclosure to employee act: Benzene, ethyl-
 New York release reporting list: Acetic Acid, Butyl Ester
 New York acutely hazardous substances: Benzene, ethyl-
 Rhode Island RTK hazardous substances: Benzene, ethyl-
 Pennsylvania RTK: Benzene, methyl-; Benzene, ethyl-; Benzene, dimethyl-; Acetic Acid, Butyl Ester
 Florida: Benzene, ethyl-; Acetic Acid, Butyl Ester
 Minnesota: Benzene, ethyl-; Acetic Acid, Butyl Ester
 Massachusetts RTK: Benzene, ethyl-; Acetic Acid, Butyl Ester
 New Jersey: Benzene, methyl-; Benzene, ethyl-; Acetic Acid, Butyl Ester

| <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> | <u>No significant risk level</u> | <u>Maximum acceptable dosage level</u> |
|------------------------|---------------|---------------------|----------------------------------|--|
| Benzene, methyl- | No. | Yes. | No. | No. |
| Benzene | Yes. | Yes. | No. | No. |
| Formaldehyde | Yes. | No. | No. | No. |

Canada

WHMIS (Canada) : Class B-2: Flammable liquid
 Class D-2A: Material causing other toxic effects (Very toxic).
 Class D-2B: Material causing other toxic effects (Toxic).

Canadian Environmental Protection Act (CEPA): This product is on the Domestic Substances List (DSL) and is acceptable for use under the provisions of CEPA.:
 Benzene, dimethyl-; Acetic Acid, Butyl Ester

CEPA DSL: Toluene; Non-hazardous solid resin; 2-Pentanone, 4-methyl-; Acetone;
 Isobutyl alcohol; Benzene, dimethyl-; Cymel MB-98; Syloid C906; Talc

Canadian NPRI: Benzene, ethyl-

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

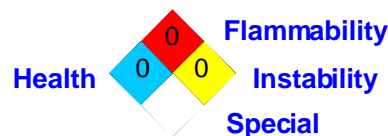
16. Other information

Label requirements : MAY BE FATAL IF INHALED.
 CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
 BLOOD, KIDNEYS, LUNGS, NERVOUS SYSTEM, LIVER.
 SUSPECT CANCER HAZARD.
 CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Hazardous Material Information System (U.S.A) :

| | | |
|---------------------|---|---|
| Health | * | 1 |
| Fire hazard | | 3 |
| Reactivity | | 0 |
| Personal protection | | G |

National Fire Protection Association (U.S.A) :



References : Manufacturer's Material Safety Data Sheet

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1/26/2006.

Page: 7/8

16 . Other information

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.