

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier**Product Name** Liquid Scale Dissolver**Other means of identification****Product Code** 4330-01, 4330-05, 4330-08**Synonyms** None**Details of the supplier of the safety data sheet****Company Name** Nu-Calgon
2008 Altom Court
St. Louis, MO 63146
(800) 554-5449
<http://www.nucalgon.com/>**Emergency telephone number****Emergency Telephone** Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--------------------------------------------------|----------------|
| Acute toxicity - Oral | Category 5 |
| Acute toxicity - Dermal | Not classified |
| Acute toxicity - Inhalation (Gases) | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |

Label elements**Emergency Overview**

Danger

Hazard statements

May be harmful if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage

May cause respiratory irritation. May cause drowsiness or dizziness

**Appearance** Clear Orange**Physical state** Liquid**Odor** Pungent Acidic**Precautionary Statements - Prevention**

Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 Specific Treatment (See Section 4 on the SDS)
 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 doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other Information**

Unknown Acute Toxicity 0.95% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Weight-% | Trade Secret |
|-------------------------------|-------------|----------|--------------|
| Water | 7732-18-5 | 60-100 | * |
| Hydrochloric Acid | 7647-01-0 | 10-30 | * |
| PROPRIETARY | Proprietary | .1-1 | * |
| Cyclohexylamine hydrochloride | 4998-76-9 | .1-1 | * |
| 2-Propanol | 67-63-0 | <0.1 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures**General advice**

Immediate medical attention is required.

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skin Contact | Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. |
| Eye contact | Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. |
| Inhalation | Remove to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. |
| Ingestion | Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately. |
| Self-protection of the first aider | Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. |

Most important symptoms and effects, both acute and delayed

Symptoms Any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible materials Incompatible with oxidizing agents. Strong bases. Ammonia. Chlorinated compounds. Contact with metals may evolve flammable hydrogen gas. Metals. Incompatible with strong acids and bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Hydrochloric Acid 7647-01-0 | Ceiling: 2 ppm | (vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m ³ Ceiling: 5 ppm Ceiling: 7 mg/m ³ | IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³ |
| 2-Propanol 67-63-0 | STEL: 400 ppm TWA: 200 ppm | TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³ | IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ |

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers, Eyewash stations & Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

| | |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skin and body protection | Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. |
| Respiratory protection | If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. |
| General Hygiene | When using do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection. |

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|-----------------------|--------------------------|
| Physical state | Liquid |
| Appearance | Clear Orange |
| Color | Orange |
| Odor | Pungent Acidic |
| Odor threshold | No Information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------|--------------------------|-------------------------|
| pH | <1 | |
| Specific Gravity | 1.107 | |
| Viscosity | Water Thin | |
| Melting point/freezing point | No Information available | |
| Flash point | None | |
| Boiling point / boiling range | No Information Available | |
| Evaporation rate | No Information available | |
| Flammability (solid, gas) | | |
| Flammability Limits in Air | | |
| Upper flammability limit: | No Information available | |
| Lower flammability limit: | No Information available | |
| Vapor pressure | No Information available | |
| Vapor density | No Information available | |
| Water solubility | Complete | |
| Partition coefficient | No Information available | |
| Autoignition temperature | No Information available | |
| Decomposition temperature | No Information available | |

Other Information

| | |
|-----------------|---------|
| Density Lbs/Gal | 9.22 |
| VOC Content (%) | 0.09296 |

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

Conditions to avoid

Exposure to air or moisture over prolonged periods. Keep out of reach of children.

Incompatible materials

Incompatible with oxidizing agents. Strong bases. Ammonia. Chlorinated compounds. Contact with metals may evolve flammable hydrogen gas. Metals. Incompatible with strong acids and bases.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

| | |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Product Information | The primary effects and toxicity of this material are due to its corrosive nature. |
| Inhalation | Harmful by inhalation. |
| Eye contact | Avoid contact with eyes. Corrosive to the eyes and may cause severe damage including blindness. |
| Skin Contact | Corrosive. Contact with skin may cause severe irritation and burns. |
| Ingestion | Harmful if swallowed. Ingestion causes acute irritation and burns to the mucous membranes of the mouth, trachea, esophagus and stomach. |

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------------------------|--------------------|-----------------------|-------------------------------------|
| Water 7732-18-5 | > 90 mL/kg (Rat) | Yes | Yes |
| Hydrochloric Acid 7647-01-0 | = 700 mg/kg (Rat) | > 5010 mg/kg (Rabbit) | = 1.68 mg/L (Rat) 1 h |
| Cyclohexylamine hydrochloride 4998-76-9 | = 720 mg/kg (Rat) | Yes | Yes |
| 2-Propanol 67-63-0 | = 1870 mg/kg (Rat) | = 4059 mg/kg (Rabbit) | = 72600 mg/m ³ (Rat) 4 h |

Information on toxicological effects

| | |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Symptoms | Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sensitization | No Information available. |
| Germ cell mutagenicity | No Information available. |
| Carcinogenicity | This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B). The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|--------------------------------|-------|---------|-----|------|
| Hydrochloric Acid 7647-01-0 | Yes | Group 3 | Yes | Yes |
| 2-Propanol 67-63-0 | Yes | Group 3 | Yes | X |

*IARC (International Agency for Research on Cancer)
Not classifiable as a human carcinogen*

| | |
|-------------------------------|---------------------------|
| Reproductive toxicity | No Information available. |
| STOT - single exposure | No Information available. |

| | |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STOT - repeated exposure | No Information available. |
| Chronic toxicity | Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects. |
| Target organ effects | EYES, Respiratory system, Skin. |
| Aspiration hazard | No Information available. |

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0.95% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION**Ecotoxicity**

24.045% of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Fish | Crustacea |
|--------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Hydrochloric Acid 7647-01-0 | Yes | 282: 96 h Gambusia affinis mg/L LC50 static | Yes |
| 2-Propanol 67-63-0 | 1000: 96 h Desmodemus subspicatus mg/L EC50 1000: 72 h Desmodemus subspicatus mg/L EC50 | 9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50 | 13299: 48 h Daphnia magna mg/L EC50 |

Persistence and degradability

NOT READILY BIODEGRADABLE.

Bioaccumulation

No Information available.

| Chemical Name | Partition coefficient |
|-----------------------|-----------------------|
| 2-Propanol 67-63-0 | 0.05 |

Other adverse effects

No Information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

| Chemical Name | California Hazardous Waste Status |
|-----------------------|-----------------------------------|
| 2-Propanol 67-63-0 | Toxic Ignitable |

14. TRANSPORT INFORMATION

This corrosive material, as per 49 CFR §173.154 and when the product meets the packaging requirements of 49 CFR §173.154 (b)(2) [inner packagings not over 5.0 L (1.3 gallons) net capacity each for liquid] is exempted from labeling and placarding requirements so long as the material is not offered for transport by aircraft

DOT

| | |
|----------------------------------------|-------------------------------------------|
| UN/ID No. | UN1789 |
| Proper shipping name | Hydrochloric acid |
| Hazard Class | 8 |
| Packing Group | II |
| Special Provisions | A3, A6, B3, B15, IB2, N41, T8, TP2 |
| Description | UN1789, Hydrochloric acid solution, 8, II |
| Emergency Response Guide Number | 157 |

TDG

| | |
|-----------------------------|----------------------------------------------|
| UN/ID No. | UN1789 |
| Proper shipping name | Hydrochloric acid Hydrochloric acid solution |
| Hazard Class | 8 |
| Packing Group | II |
| Description | UN1789, Hydrochloric acid solution, 8, II |

| |
|-----------------------------------|
| 15. REGULATORY INFORMATION |
|-----------------------------------|

International Inventories

| | |
|-----------------|----------|
| TSCA | Complies |
| DSL/NDSL | Complies |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US 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 | SARA 313 - Threshold Values % |
|-------------------------------|-------------------------------|
| Hydrochloric Acid - 7647-01-0 | 1.0 |

SARA 311/312 Hazard Categories

| | |
|------------------------------------------|-----|
| Acute health hazard | Yes |
| Chronic Health Hazard | Yes |
| Fire hazard | No |
| Sudden release of pressure hazard | No |
| Reactive Hazard | No |

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Hydrochloric Acid 7647-01-0 | 5000 lb | Yes | Yes | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ) |
|---------------|--------------------------|----------------|--------------------------|
|---------------|--------------------------|----------------|--------------------------|

| | | | |
|--------------------------------|---------|---------|--------------------------------------------|
| Hydrochloric Acid 7647-01-0 | 5000 lb | 5000 lb | RQ 5000 lb final RQ RQ 2270 kg final RQ |
|--------------------------------|---------|---------|--------------------------------------------|

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|--------------------------------|------------|---------------|--------------|
| Hydrochloric Acid 7647-01-0 | X | X | X |
| 2-Propanol 67-63-0 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

| | | | | |
|--------------------|------------------|----------------|--------------------|--------------------------------------|
| <u>NFPA</u> | Health hazards 3 | Flammability 0 | Instability 0 | Physical and Chemical Properties Yes |
| <u>HMIS</u> | Health hazards 3 | Flammability 0 | Physical hazards 0 | Personal protection D |

Issue Date 02-Jan-2015

Revision Date 02-Jan-2015

Revision Note

No Information available

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet