



MSDS AND TEST DATA EXPLANATION

We hired a private, nationally recognized laboratory, Maxim Technologies, Inc. of Sioux Falls, South Dakota, to sample the smoke generated by LiquiSmoke. The samples were sent to the Wisconsin Occupational Health Laboratory where a GC Solvent Scan was performed. Of the 107 items listed in a GC Solvent Scan, only .01 parts per million (PPM) petroleum distillates was found. The OSHA Permissible Exposure Limit (PEL) is 500 ppm. Carbon Monoxide and Carbon Dioxide levels all tested within the OSHA PEL. This information is important to persons being exposed to the "smoke". Even though these test don't identify any harmful quantities of toxic compounds, you will need to warn your customers of dangerous sewer gases that may be traveling with the smoke. They should always be warned to evacuate the premise when smoke is detected.

Additionally, we had Maxim Technologies test the smoke generated by our LiquiSmoke for staining and residue. The tests showed that there was no staining or residue caused by LiquiSmoke. Your customers can rest assured that LiquiSmoke will not ruin their furniture or drapery.

Please note that only people who are using the "raw" LiquiSmoke will be concerned with the MSDS information. What is important on the MSDS sheet is Section III (Hazards Identification). Under "medical conditions", the National Toxicology Program (NTP), the Occupational Safety and Health Administration (OSHA), and the International Agency for Research on Cancer (IARC) all list **no medical conditions** for LiquiSmoke. IARC makes special note that there are **no carcinogenic dangers**.

If you have any questions or concerns about Hurco's LiquiSmoke, please give me a call at 1-800-888-1436.

Sincerely,

Michael Hurley
President

Scientific Evaluation of LiquiSmoke™

A Summary of the Scientific Evaluation Reports Produced by Maxim Technologies of Sioux Falls, South Dakota

During testing conducted by Maxim Technologies, the following facts concerning the smoke generated by LiquiSmoke were determined, under the guidelines set by The National Institute of Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA).

During the tests, Maxim Technologies collected a sample of the smoke generated by LiquiSmoke in a charcoal tube. The sample was sent to the Wisconsin Occupational Health Laboratory. A GC Solvent Scan was conducted to determine if the smoke generated by LiquiSmoke formed any hazardous compounds or conditions. The GC Solvent Scan searched for 107 different hazardous organic compounds. Of the 107 items listed, only .01 parts per million (ppm) petroleum distillates was found. The OSHA permissible Exposure Limit is 500 ppm.

Further testing by Maxim Technologies found that the ambient carbon monoxide levels were found to be zero. NIOSH regulations have determined that the "8 hour time weighted average" (TWA) for carbon monoxide to be 35 ppm. During the duration of the test, measurable TWA levels of LiquiSmoke ranged from 4.6 to 7.8 ppm – within the OSHA Permissible Exposure Limit (PEL) set by OSHA.

Maxim Technologies also tested for carbon dioxide levels. Ambient levels were found to be at 330 ppm. The level of carbon dioxide during the entire LiquiSmoke test was determined to be 500 ppm. The OSHA Permissible Exposure Limit (PEL) is 5,000 ppm.

In addition, testing by Maxim Technologies was also performed to determine if usage of the product left any staining or odor. Residual staining and odor tests were conducted in a closed facility filled with LiquiSmoke. Time interval testing of filter paper samples exposed to LiquiSmoke were examined under a microscope at 40X magnification. In all cases, no visible staining was present, along with no odor on any of the filter papers exposed to the smoke.

This summary is based on complete reports from Maxim Technologies of Sioux Falls, South Dakota. Copies of these tests, as well as the findings of the Wisconsin Occupational Health Laboratory, are available from Hurco Technologies, Inc.

MATERIAL SAFETY DATA SHEET for **HURCO** TECHNOLOGIES, INC.

LiquiSmoke™

SECTION I Product Identification

TRADE NAME:

Hurco LiquiSmoke™

GENERAL OR GENERIC ID: Hydrotreated Middle Distillate
DOT HAZARD CLASSIFICATION: N/A
CHEMICAL FORMULA: Proprietary
This material is in compliance with the
Toxic Substances Control Act (15 USC 2601—2629).

SECTION II Composition, Information on Ingredients

INGREDIENT: Hydrotreated Middle Distillate
CAS #: 64742-46-7
PERCENT: 100

EXPOSURE INFORMATION

Ingredients	ACGIH TLV	STEL	OSHA Pel	STEL
Hydrotreated Middle Distillate	100 mg/m3	NA	NA	NA

Exposure limits expressed as 8-hour TWA concentrations in either parts per million (ppm), or milligrams per cubic meter (mg/m3).

SECTION III Hazards Identification

ROUTES OF ENTRY

Inhalation: Yes
Skin: Yes
Ingestion: Yes

EXPOSURE EFFECTS

Symptoms of Exposure: Headache, drowsiness, eye, respiratory or skin irritation, nausea, numbness.
Acute Exposure Effects: Ingestion may cause nausea, vomiting and diarrhea.
Chronic Exposure Effects: Dermatitis, pneumonitis & pulmonary edema.

MEDICAL CONDITION

Aggravated by Exposure: NA
Carcinogen Status: No
NTP: No
OSHA: No
IARC: No

CARCINOGENICITY STMT: According to IARC Monographs, severely Hydrotreated oils, such as this product, are not considered carcinogenic. Nevertheless, good industrial hygienic practices are recommended.

SECTION IV First Aid Measures

Emergency and First Aid Procedures

Remove from contaminated atmosphere. Give artificial respiration if not breathing. Remove contaminated clothing. Thoroughly wash affected areas with soap and water. In case of eye contact, flush eyes with water for 10-15 minutes. **SEEK IMMEDIATE MEDICAL CARE.**

If swallowed, **DO NOT INDUCE VOMITING.**

SECTION V Fire and Explosion Data

Flashpoint: 265°F.(129.43°C) COC
Autoignition Temperature: NA
LEL: NA
UEL: NA
Fire Fighting Procedures: SCBA may be required.
Extinguishing Media: CO2, Dry Chemical, Foam
Unusual Fire & Explosion Hazards: Water may cause frothing.

SECTION VI Accidental Release Measures

SPILL/RELEASE INSTRUCTIONS

Eliminate all sources of ignition. Contain with earthen like or petroleum absorbent material. Remove with grounded suction pump to salvage container. Remove all contaminated materials.

SECTION VII Handling & Storage Information

Keep away from all ignition sources (e.g. heat, flame, sparks, strong oxidizers). Bond and ground container.

SECTION VIII Exposure Controls/Personal Protection

Engineering Controls: No
Local Exhaust: To control vapors.
Mechanical Ventilation: For Confined Spaces.
Respiratory Protection: NIOSH approved organic vapor respirator.
Eye Protection: Chemical goggles or face shield.
Glove Protection: PVC/equivalent resistant glove.
Work/Hygienic Practices: Always minimize body contact. Wash areas of body contact promptly. Use a PVC/equivalent resistant apron where splash potential exists.

SECTION IX Physical & Chemical Properties

Physical Appearance: Water white liquid
Product Odor: Negligible
Specific Gravity: <1
Solubility in Water: Insoluble
Boiling Point: 470°F 243.31°C
Freezing Point (F): NA
Melting Point (F): 30°F -1.11°C
Vapor Pressure: <0.1
Reference: mmHg@70°F

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SECTION X Stability & Reactivity Information

Stability: Stable
Hazardous Polymerization: Oxidizers
Materials to Avoid: Heat & Flame
Hazardous Decomposition: Carbon Monoxide and other petroleum decomposition products.

SECTION XI Disposal Consideration

Waste Management: Per Federal, State and local laws.

SECTION XII Transportation Information

Proper Shipping Name: NOT A DOT REGULATED MATERIAL
(Packaging in excess of 3500 gal require an OIL SPILL prevention and response plan per 49 CFR 1).

Hazard Class: NA
UN/NA Number: NA
Packaging Group: NA

All hazard precautions given in this data brochure must be observed.
This brochure is for the unburnt LiquiSmoke Only. Test Data is available for LiquiSmoke "smoke" by contacting Hurco Technologies.

LAST ISSUE DATE:
01/01/15

Questions Concerning LiquiSmoke
(8:00-5:00 Central Time) M-F
Please Call: 1-800-888-1436

SECTION XIII Regulatory Information

Hazardous under SARA Section a311: Yes
Fire Hazard: No
Sudden Release: No
Immediate: No
Reactive Hazard: No
Delayed: Yes

SARA Section 313 Listed Components: None

SECTION XIV Other Information

NFPA 704M Rating

NFPA Fire Code: 1
NFPA Health Code: 1
NFPA Reactivity Code: 0
NFPA Other: Blank

The information contained in this MSDS is believed to be accurate, but is not warranted to be, whether originated with Hurco Technologies or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to the circumstances.

NFPA Key

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme

SECTION XV Definitions

DOT = Department of Transportation
CAS = Chemical Abstract Service
ACGIH = American Conf. Of Governmental Industrial Hygienists
OSHA = Occupational Safety and Health Administration
TLV = Threshold Limit Value
STEL = Short Term Exposure Limit
PEL = Permissible Exposure Limit
TWA = Time Weighted Average
NTP = National Toxicology Program
IARC = International Agency for Research on Cancer
LEL = Lower Explosion Limit
UEL = Upper Explosion Limit
SCBA = Self Contained Breathing Apparatus
CFR = Code of Federal Regulations
NFPA = National Fire Protection Agency
EPA = Environmental Protection Agency

FOR ADDITIONAL
NON-EMERGENCY MSDS INFORMATION CONTACT:

HURCO
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