

EnSolv®-GCS Technical Data Sheet

DESCRIPTION

EnSolv®-GCS is the perfect replacement for TCE, Perchloroethylene, 1,1,1-Trichloroethane and other hazardous vapor degreasing and general use solvents for non-critical applications such as general metal cleaning, metal finishing and touch up cleaning. It is an excellent choice for removal of a wide range of organic soils by vapor degreaser, ultrasonic cavitation, dip tank, flushing or hand wiping. EnSolv®-GCS is a patented azeotropic mixture that can be distilled and reused through numerous cycles before it needs to be replaced. Although Enviro Tech offers stabilizer booster (EnSolv® Spec 490) in 5-gallon pails, the synergistic action of the patented stabilizer package typically precludes the need to ever add stabilizers to maintain the integrity of the solvent in normal use.

MATERIALS COMPATIBILITY

EnSolv®-GCS is compatible with all metals and many plastics and other materials typically cleaned in vapor degreasers, ultrasonic tanks or manually. For a full list of compatibility recommendations, refer to the "Materials Compatibility" document available for download at www.envirotechint.com. Any materials not listed in this document should be tested for compatibility in the conditions of use.

HEALTH & SAFETY

EnSolv®-GCS is a non-flammable solvent mixture that is safe to use in many applications. Enviro Tech recommends that safe work practices are implemented whenever handling chemicals of any kind to minimize exposure levels and prevent toxic effects. Please refer to the EnSolv®-GCS Material Safety Data Sheet or the FAQs on the website for more specific information on workplace exposure levels, toxicity and personal safety recommendations.

REGULATORY INFORMATION

EnSolv®-GCS is classified as non-hazardous for transport by the U.S. DOT. For international shipments, EnSolv®-GCS is exempt from classification as a flammable material per Special Provision A3 under Sub Section 4.4 in the IATA shipping manual. Spent EnSolv®-GCS is classified as a non-hazardous waste unless RCRA hazardous contaminants are deposited into the material through a cleaning process. N-propyl bromide is a SARA reportable chemical, meaning that if 10,000 lbs or more are onsite at a facility at any one time during the course of the year, and the company has 10 or more employees at that location, it must be reported under SARA regs.

The principal component of EnSolv®-GCS, n-Propyl Bromide, is classified as 100% Volatile Organic Compound (VOC). Enviro Tech has petitioned the U.S. EPA for VOC exempt status based on low atmospheric reactivity derived from independent testing. The U.S. EPA has approved n-Propyl Bromide under the Significant New Alternatives Policy (SNAP) as a suitable replacement for ozone depleting chemicals. N-Propyl Bromide has been shown to neither deplete the ozone layer nor contribute significantly to global warming.

PROCESS CONTROLS & MAINTENANCE

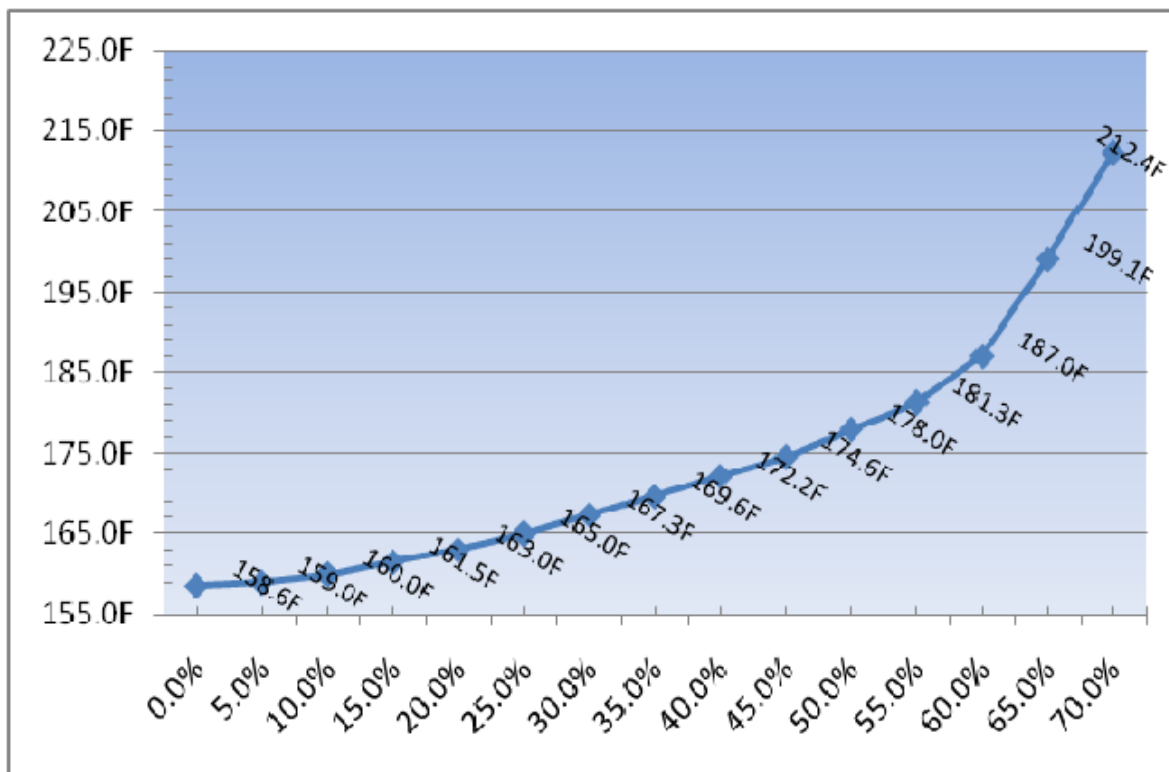
Prior to charging a piece of equipment with EnSolv®-GCS, the equipment should be thoroughly cleaned and neutralized according to the procedure listed in the "Vapor Degreaser Conversion" document available for download at www.envirotechint.com. After the equipment is up and running with EnSolv®-GCS, the acid acceptance levels of the solvent should be monitored on a regular basis with an Acid Acceptance Test Kit, available from Enviro Tech. EnSolv®-GCS can be distilled and reused through numerous cycles before losing its capacity to neutralize acid residues. If acid acceptance levels ever reach 29 drops or greater (<0.10% NaOH by weight), it is recommended to remove the EnSolv®-GCS from the tank and replace with new EnSolv®-GCS.

DISTILLATION AND DISPOSAL OF SPENT SOLVENT

EnSolv®-GCS should be disposed of once the boil temperature reaches the 168-173°F (75-78°C) range. At this point, soil loading levels have reached approximately 35-40% by volume and increased heat offers diminishing returns (see table below). Enviro Tech offers a spent EnSolv®-GCS disposal and/or recycling service through its partner, WRR Environmental Services. Often times, there is no cost whatsoever to participate in this environmentally conscious stewardship program. Contact an Enviro Tech representative for more information on participating in this program.

EnSolv® Boiling Point vs. Weight % Soil Chart

(Soil consists of typical machining oils)



VAPOR DEGREASER SETTINGS

The following are suggested settings for temperature and safety sensors on a typical vapor degreaser. Certain features are optional and may not be present on a particular piece of equipment. Refer to the vapor degreaser manual from the equipment manufacturer for more technical information.

Refrigeration Thermostat (RT)	7°C / 45°F
Safety Vapor Control (SVC)	64°C / 148°F
High Temperature Control (HTC)	76°C / 168°F
Liquid Temperature Control/Sensor (LTC/LTS)	73°C / 163°F
Vapor Up Thermostat (VU/TH)	64°C / 148°F

SOLVENT PROPERTIES

Typical Physical Properties	
Boiling Point (°C / °F)	70° / 158°
Specific Gravity @ 75°F (H ₂ O=1)	1.31 +/- 0.01
Flash Point TCC (°C)	None
Base material meets ASTM-D 6368	Yes
Flammability Limits (vol. %) based on n-Propyl Bromide	3.8 - 9.5 %
Vapor Pressure @ 25°C (mm Hg)	134
Vapor Density (Air = 1)	4.2
Evaporation Rate (Butyl Acetate = 1)	4.7
Specific Heat @ 25°C (cal/g)	0.26
Dielectric Strength (AC Volts)	21,000
Appearance	Clear & free of suspended matter

Specifications	
EnSolv Assay (weight % min.)	>99%
Color APHA (max.)	<15
Water (weight % max.)	<0.050 (500 ppm)
Acid Acceptance, as NaOH (weight % min.)	>0.25
Non-Volatile Residue (weight % max.)	<0.0050 (50 ppm)
Acidity, as HBr (weight % max.)	<0.0010 (10 ppm)
Isopropyl Bromide (weight % max.)	<0.0100 (100 ppm)

PACKAGING & AVAILABILITY

EnSolv[®]-GCS is available in the following container sizes and weights:

5 Gallon Pail
55 Gallon Drum
350 Gallon Tote
Bulk Tanker

55 lbs (25 kg)
551 lbs (250 kg)
3,826 lbs (1,735.5 kg)
44,000 lbs (19,958 kg)

The approximate weight of EnSolv[®]-GCS is 10.93 pounds per gallon. EnSolv[®]-GCS is maintained in inventory and most orders ship within 24 hours of receipt of the order. Contact an Enviro Tech representative for pricing, availability and technical questions.

The above represents typical properties of EnSolv[®] GCS Vapor Degreasing and Cleaning Solvent, but do not represent any other product specification. Other EnSolv[®] products have similar characteristics, but are not necessarily identical to the properties listed above. For specific values and specifications, consult the product's Certificate of Analysis.