



**Husqvarna HiPERFLOOR™
LEED® Guide**

The choices made today shape the landscape of the future. Economic, social and environmental impacts must be considered when it comes to modifying existing buildings or bringing new construction to life. Taking these issues into account ensures a balanced approach to construction, one with sustainability in mind.

The Husqvarna HiPERFLOOR™ method of densifying and polishing concrete transforms existing concrete into a beautiful, environmentally friendly floor. With increased abrasion resistance and surface density, HiPERFLOOR™ creates an ultra-hygienic, low VOC floor that can improve a facility's energy performance.

This guide has been created to provide a basic outline of the HiPERFLOOR™ process as well as to aid designers and project teams seeking LEED® certification of their project. It is our hope that this LEED® v3.0 guide will help in sustainable, environmentally responsible building practices.

BUILDING GREEN



LEED®, Leadership in Energy and Environmental Design, is an internationally recognized certification system for green building projects. It was developed by the U.S. Green Building Council (USGBC) to encourage sustainable building and environmentally responsible construction practices.

Understanding the balance between our limited resources and mankind's growing construction needs is crucial in creating a professional design culture committed to sustainability. Whether renovating an existing building or starting from the ground up, Husqvarna Construction Products is proud to be a part of that solution.

The world's premier polished concrete flooring system is Husqvarna HiPERFLOOR™. This LEED® v3.0 guide is intended as a reference to assist LEED® project teams using Husqvarna HiPERFLOOR™ in creating sustainable design.

HiPERFLOOR™ EQUIPMENT



Husqvarna Dust Collection Systems

Husqvarna's dust collection systems can protect workers with unique features to create an almost dustless environment:

- Husqvarna's DC 5500 includes a three-way filtering system for the efficient containment of dust at a filtration rate of 99.9% @ 1 micron.
- The unique bag disposal system makes easy containment of messy and hazardous substances. In addition, the DC 5500 also includes built-in phase correction (3-phase power) for increased energy efficiency and the protection of equipment and personnel.



Husqvarna Planetary Grinders

Husqvarna HiPERFLOOR™ professional grinders are designed to reduce stress on the operator's body by incorporating unique ergonomic frame and handle features. Comfortable operation can be achieved regardless of the height and build of the operator. Husqvarna's PG series of grinders also includes a kickbar, making it easier to tilt and move the machine.

ENVIRONMENTALLY SENSIBLE POLISHED CONCRETE FLOOR

HiPERFLOOR™ is a smart solution to reduce environmental impact from a number of different aspects. It reduces material waste and future surface replacements/refurbishments, as well as lighting energy requirements. It incorporates products with low environmental impact, and there is minimal re-application of topical coatings to maintain a desired finish or to prevent concrete from wear.

HiPERFLOOR™ PROCESS

Grind (exposing aggregate)

The concrete floor is first ground to establish the required flatness and/or aggregate exposure. This also removes what is in many cases the softer, unstable surface layer of concrete. A flatter floor makes for higher light reflectivity.

Fill

Small holes, air bubbles and other small surface imperfections are filled using a latex grout like Husqvarna GM 3000™ to ensure a smooth, uniform surface. Husqvarna GM 3000™ exceeds low VOC recommendations for SCAQMD Rule 1113, Architectural Coatings (MSDS included at the back of this guide).

Densification

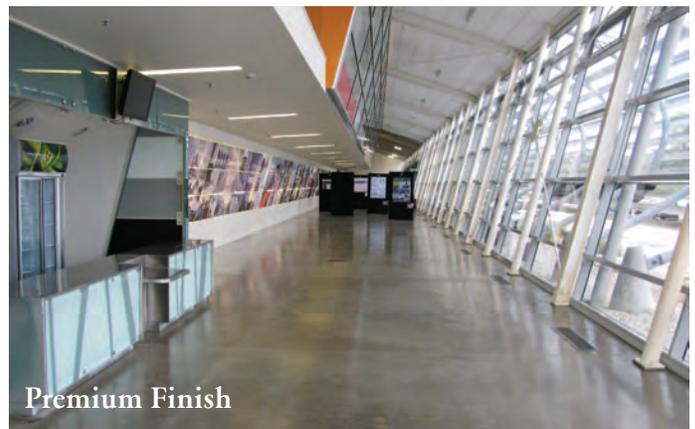
The surface of the concrete is then treated with Husqvarna Hiperhard™ water based concrete hardener. This produces a homogenously hardened surface and creates a non-dusting floor. Potassium based densifiers are traditionally used for exposed aggregate floors, and lithium based densifiers for color treated or cream/paste polished floors. Both varieties of Hiperhard™ meet AHSRAE 62.1, 2007 standards and SCAQMD 1113 (MSDS included at the back of this guide).

Polish

Polishing via progressively finer stages of resin bond diamond tools is done to achieve the desired surface gloss. Light meter testing should be performed after polishing but before applying a protective coating. This ensures proper calcium silicate creation and correct execution of the HiPERFLOOR™ polishing process.

Protect

Protection by impregnation using Husqvarna HiperGuard Green™ is done to enhance water and stain resistance of the floor. HiperGuard Green™ exceeds recommended standards for low VOC products (SCAQMD 1113, ASHRAE 62.1, 2007).



DETERMINING - CREDITS

The responsibility for determining the design attributes that may help in awarding LEED® credits and possible certification responsibility rests with the LEED® applicant. Husqvarna cannot guarantee the awarding of LEED® points for any part of a project. Determination of awarding points and final certification is decided by the USGBC's Green Building Certification Institute.

Related References

- **Energy** ASHRAE 90.1
- **Ventilation** ASHRAE 62.1
- **Thermal Comfort** ASHRAE 55
- **Air Filters** ASHRAE 52.2

www.usgbc.org

www.ashrae.org

www.aqmd.gov

www.gbca.org.au

www.ada.gov/adastd94.pdf

(page 568 - A4.5 Ground and Floor Surfaces) American Disabilities Act

www.astm.org

www.osha.gov

The information provided in this document is to the best of Husqvarna Construction Products' knowledge. Visit www.usgbc.org to learn more about LEED® certification.

LEED® MINIMUM REQUIREMENTS

LEED® VERSION 3.0 CERTIFICATION

Before individual credits can be earned or a project can be considered for LEED® certification, minimum requirements must be met. These requirements are different for 'New Construction' or 'Existing Buildings' and cover basic elements, not sustainability criteria.

New Construction Minimum Requirements

1. Must obey all environmental laws.
2. Must be a permanent space/building.
3. Must use a reasonable site boundary.
4. Must be at least 1,000 SF gross floor area.
5. On an annual average, must have at least 1 Full Time Equivalent (FTE).
6. Must share whole building energy and water usage data with USGBC for 5 years.
7. Gross floor area of the project building must be at least 2% of the gross land area within the LEED® project boundary.

Existing Building Minimum Requirements

8. Vacant tenant spaces cannot exceed 50% of the floor area.
9. If the building has multiple tenants, up to 10% of the floor area may be excluded.

There are four different levels of LEED® certification available:

1. LEED® Platinum	80+ points
2. LEED® Gold	60 points
3. LEED® Silver	50 points
4. LEED® Certified	40 points

The highest number of potential credits is 110. However, it is unlikely that a project will meet every single requirement necessary to obtain the maximum amount of points/credits. Please consult the USGBC's LEED® Reference Guide for additional information on the certification system.

The LEED® v3.0 rating system is divided into seven distinct categories, and includes the following breakdown in potential points/credits:

1. Sustainable Sites (SS)	26 possible points
2. Water Efficiency (WE)	10 possible points
3. Energy & Atmosphere (EA)	35 possible points
4. Materials & Resources (MR)	14 possible points
5. Indoor Environmental Quality (IEQ)	15 possible points
6. Innovation in Design Process (ID)	6 possible points
7. Regional Environmental Priority (RP)	4 possible points



HUSQVARNA AND LEED® CERTIFICATION

The following are specific categories and credits that HiPERFLOOR™ may qualify for.

Energy and Atmosphere (EA)

Credit 1: Optimize Energy Performance (1-19 points)

Lowering energy usage is the key to achieving points in this credit category. Reducing heating and cooling loads and using less power for lighting and electrical systems all play a part in the EA score a project receives.

Husqvarna's low VOC liquid densifier, Hiperhard™, reacts with the free calcium present in portland cement to create a calcium-silicate crystal layer that bonds to the top of the concrete slab. This layer is then honed and polished to create the highly reflective HiPERFLOOR™.

The HiPERFLOOR™ system significantly increases a project's energy efficiency by maintaining the positive thermal mass properties of concrete while fabricating a highly reflective floor that reduces the need for overhead lighting and decreases a facility's energy consumption. Increase energy performance in your design to maximize LEED® certification potential.

Energy usage can also be decreased as an exposed polished concrete floor reduces heating and cooling loads due to its thermal mass and reflective properties:

1. Reduces need for heating fuels
2. Reduces electricity used in heating/cooling during peak energy demand periods

Reducing the amount of overhead lighting not only saves on energy consumption, but can also drastically decrease materials and costs associated with lighting installation. Lowering the use of air conditioning systems also reduces the amount of chlorofluorocarbons (CFC) released into the atmosphere.



Materials and Resources (MR)

Credit 1.1: Building Reuse/Maintain Existing Walls, Floors and Roof (1-3 points)

Reducing the impact construction has on the environment is accomplished by conserving materials, eliminating waste and utilizing as much of the existing building as possible.

Polished concrete floors use the existing concrete slabs; therefore additional materials like carpet, tile, epoxy, and adhesives necessary for installation are no longer needed.

Requirements for this LEED® category can be met by restoring the foundation slab and the proper installation of a polished Husqvarna HiPERFLOOR™. At minimum, 50% of existing, non-structural elements (doors, ceilings, interior walls, floors, etc.) must be maintained during new building or additions for credit consideration.

Materials and Resources (MR)

Credit 1.2: Building Reuse/Maintain Interior Non-Structural Elements (1 point)

At least 50% of the total area of the project's nonstructural interior elements must be reused to qualify for this LEED® credit. If the square footage of the addition(s) is twice as large as the original building, it may not be possible to attain points.

In using the Husqvarna HiPERFLOOR™ polishing system, designers lessen the impact of construction and demolition by resurfacing the existing concrete slab. Resources are diverted from landfills, and expenditures on energy and labor are minimized as less time is spent on demolition.

Materials and Resources (MR)

Credit 3: Material Reuse (1-2 points)

Extracting natural resources can negatively impact the environment. The Materials and Resources Credit 3 is designed to support green development by rewarding the use of salvaged or reused materials in construction projects.

This credit is based on cost. At least 5% of the total value of materials on the project must be reused to qualify. An additional point is available for projects with 10% or more reused or restored materials. When calculating for this credit, only include materials permanently installed.

Polished concrete floors assist project teams in gaining this LEED® point if part of the polished concrete HiPERFLOOR™ extends into another building or new section of the first building, thereby repurposing the floor in those areas.

It is also possible for design teams to earn an additional Innovation in Design (ID) credit in Material Reuse for maintaining 15% or more of the existing walls, floors and roof in the final structure.

About Fly Ash

Due to its increased use as a recycled material, it is important to point out that fly ash is always considered a pre-consumer recycled product and never a post-consumer recycled product.

Plasticizers can improve durability and floor performance, but recommendations for the inclusion of fly ash, slag or other recycled plasticizers in concrete mixtures intended to be polished vary slightly within different professional organizations. Please consult the following sources for updated information on plasticizer inclusion with Husqvarna HiPERFLOOR™ or your Husqvarna LEED® representative.

American Concrete Institute (ACI) - www.concrete.org
Concrete Polishing Association of America (CPAA) - www.concretepolishingassociation.com
International Concrete Polishing and Staining Conference (ICPSC) - www.icpsc365.com

It is possible to obtain one additional Innovation in Design (ID) credit when 30% or more of the total materials used in construction is from recycled content. The value of recycled content is based on cost.

Materials and Resources (MR)

Credit 4: Recycled Content (1-2 points)

The intent of this credit is to increase the use of recycled materials in building projects.

This credit is based on a dollar amount. At least 10% of the total material cost should come from materials made of recycled content in order to qualify. By exceeding 20% of the total material cost, an additional point is available. Post-consumer recycled materials (plastic bottles, newspapers, tuna cans) will count for its full dollar value while pre-consumer recycled materials (textile clippings, sawdust, walnut shells) will only receive half of its dollar amount.

Polished concrete floors can contain all manner of recycled materials, such as broken glass or even silica fume and fly ash. USGBC uses the requirements set by the International Organization of Standardization to define recycled content (ISO 14021-1999) and should be consulted by the design team before MR Credit 4 submittals.

Indoor Environmental Quality (IEQ)

Credit 4.2/4.3: Low-emitting Materials

(1 point for each credit)

These credits were designed to support the specification of floor coatings that comply with the recommendations of the South Coast Air Quality Management District (SCAQMD) Rules 1113 and 1168.

A properly installed Husqvarna HiPERFLOOR™ will not contribute to the growth of mold, mycotoxins or lead to the evaporation of volatile organic compounds (VOC) after its installation. HiPERFLOOR™ produces a flooring system that directly supports a healthy indoor air environment. Furthermore, HiPERFLOOR's™ chemical components are also low VOC.

Indoor Environmental Quality (IEQ)

Credit 7.2: Thermal Comfort

(design) (1 point)

A comfortable environment is a productive environment. This credit encourages efficient design of heating and cooling systems and thermal energy transfer for creating healthy work and study spaces.

HiPERFLOOR™ can assist in making a comfortable environment throughout a building via the transfer of thermal energy. Incorporating passive temperature control designs or HVAC systems allows polished concrete floors to help transfer thermal energy from a variety of heat sources (sunlight, body heat, radiant heating systems). This helps ensure optimal comfort is maintained by storing and evenly distributing thermal energy throughout the building via conduction, convection or radiation. By using the natural thermal qualities of the slab, a Husqvarna HiPERFLOOR™ can help create a comfortable environment for students, workers and other full-time equivalents (FTE).

Indoor Environmental Quality (IEQ)

Credit 7.2: Thermal Comfort (verification)

This credit provides for the opportunity of FTEs to rate the quality of thermal comfort in their facility.

To verify the effectiveness of the concrete floor and how it relates to occupants' comfort, a survey can be employed. After a period of 6 to 18 months of residence, the project team simply implements an anonymous survey concerning satisfaction levels of occupants' thermal comfort inside the building and allows for any issues concerning thermal comfort to be addressed. If the survey shows that 80% of the occupants are satisfied, then it is possible to earn a point in this category.

If a building site does not meet the 80% minimum satisfaction, ASHRAE Standard 55-2004 should be consulted in developing corrective plans.

Innovation and Design

Credit 4: LEED® Accredited Professional (1 point)

There is only one point available for this credit regardless of how many members of the design team are LEED® Accredited Professionals.

The LEED® process is still new to many in the architectural and construction communities. Having a LEED® Accredited Professional as part of your design team can make the process smoother and more efficient.

Regional Exceptions

Regional Environmental (1-4 point)

Not every geographic region is exactly the same. Differences in climate, vegetation and average annual rainfall from region to region differences mean environmental needs vary. To find out what Regional Priority Credits are available for a particular area, visit www.usgbc.org/LEED®2009.

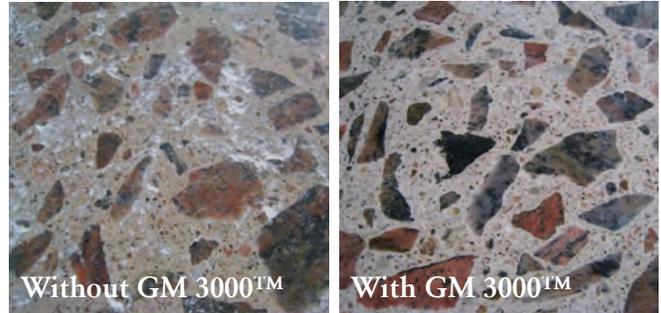
There are no additional credits that exist in this category, but other credits may be eligible for additional points due to specific areas' environmental circumstances. Please discuss with a local HiPERFLOOR™ installer to see what specific credits may be worth additional points.



HUSQVARNA HiPERFLOOR™ LOW VOC PRODUCTS

Husqvarna GM 3000™ is a latex-based bonding additive specifically formulated for use in re-grouting/filling of holes in concrete surfaces. GM 3000™ forms an inherent part of the HiPERFLOOR™ process. It is effective for patching and filling small air pockets/pin holes when polishing concrete floors and contains no volatile organic compounds (VOC).

Hiperhard™ is a further treatment product in the HiPERFLOOR™ process. It is a silicate applied to the concrete surface to react with the calcium hydroxide (already existing in the concrete). A crystalline/glassy structure is formed in the pores of the concrete near the surface and is a main contributor to increasing the surface hardness of the concrete. The combination of calcium silicate forming in the concrete, along with polishing of the concrete with resin bonded diamonds, significantly hardens the floor and improves the abrasion resistance as well as making a significant impact on the appearance of the final floor.

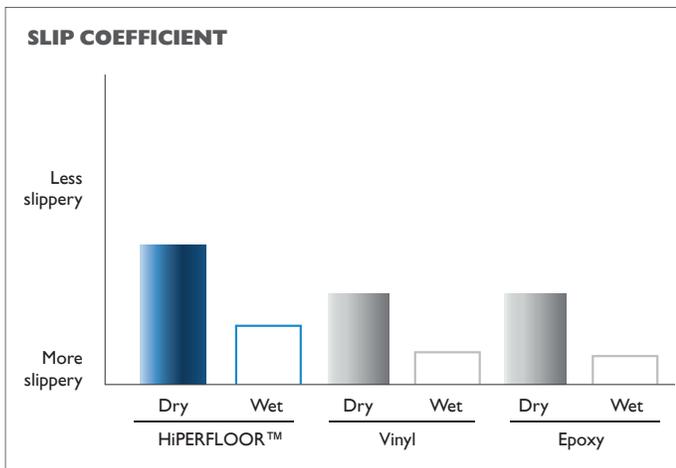


The finishing touch to a polished Husqvarna HiPERFLOOR™ is low VOC Hiperguard™. Hiperguard™ enhances the stain resistance of a floor, allowing for additional time to clean up spills and keep the floor looking fresh. Only water or neutral pH cleaners should be used in cleaning a polished concrete floor. Harsh cleansers like bleach can etch out portions of the floor and reduce reflectivity.

HUSQVARNA HiPERFLOOR™ SLIP RESISTANCE

Whether wet or dry, Husqvarna HiPERFLOOR™ provides a safe walking surface. If kept clean of debris and regularly maintained, a Husqvarna HiPERFLOOR™ will meet the required coefficient of friction (COF) requirements. It is generally accepted that a slip coefficient of .35 is needed for normal walking. However, the Americans with Disabilities Act

(ADA) recommends a .80 COF for inclined surfaces (ramps, stairs, etc.). Friction strips, and various "grit" products can be installed in conjunction with a polished concrete floor to meet ADA safety standards. Contact your local Husqvarna representative to find out more.





MSDS INFORMATION

The following pages contain Material Safety Data Sheets for the chemicals involved in the HiPERFLOOR™ process.





GM 3000™ MSDS INFORMATION

SECTION I - COMPANY & PRODUCT IDENTIFICATION

TRADE NAME: Husqvarna GM-3000
CHEMICAL NAME: Acrylic Resin
DATE: January 7, 2012

PRODUCT CODE: N/A
CAS #: Mixture, no single number applies

SECTION II - COMPOSITION FORMULA - COMPONENT INFORMATION

INTENTIONAL INGREDIENTS

No hazardous ingredients present

CAS #

SECTION III - HAZARDS IDENTIFICATION

PERMISSIBLE EXPOSURE LEVEL: Undetermined
SKIN: Overexposure may cause some skin dryness.
INHALATION: Overexposure may cause irritation of upper respiratory tract.

EYES: May cause irritation.

INGESTION: May cause nausea.

THIS MATERIAL IS NOT LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA

SECTION IV - FIRST AID MEASURES

EYE CONTACT: Flush with water lifting eyelids.
INHALATION: Remove victim to fresh air.
INGESTION: Do not induce vomiting. Give plenty of water and milk of magnesia.

SKIN CONTACT: Wash skin with soap and water.

SECTION V - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT: None/Setaflash (ASTM 93)
FLAMMABLE LIMITS: N/A LOWER: N/A UPPER: N/A FIRE/EXPLOSION HAZARDS: No unusual hazards.
EXTINGUISHING MEDIA: Foam, CO₂, dry chemical
FIRE FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode and full protective clothing. Use water spray to cool nearby containers and structures.

HMIS HAZARD CLASS: Health =1 Flammability =0 Reactivity =0 Other =NA
Ranking: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme

SECTION VI - ACCIDENTAL RELEASE PROCEDURES

SMALL SPILLS: Mop with water and flush to drain with plenty of water.
LARGE SPILLS: Contain with dike, absorb or vacuum to storage container. Dispose in accordance with all regulations.

SECTION VII - HANDLING & STORAGE

STORAGE: Keep cool and dry

HANDLING: Avoid heat.

SECTION VIII - EXPOSURE CONTROL/PERSONAL PROTECTION

EYE AND FACIAL: None required under normal conditions.
RESPIRATORY: None required under normal conditions.
OTHER: None required under normal conditions.

SKIN: None required under normal conditions.
VENTILATION: Local mechanical ventilation is acceptable

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: F 210 SOLUBILITY: Miscible pH: 8 VOC: 0 %
PERCENT VOLATILE: 85 VAPOR DENSITY: N/A VAPOR PRESSURE: N/A
EVAPORATION RATE (BUTYL ACETATE=1): N/A SPECIFIC GRAVITY: 1.11
APPEARANCE & ODOR: Milky white semi viscous liquid, characteristic odor.

SECTION X - STABILITY & REACTIVITY INFORMATION

STABILITY: Stable
HAZARDOUS DECOMPOSITION INGREDIENTS: CO₂ & CO.

REACTIVITY: N/A
HAZARDOUS POLYMERIZATION: Will not occur

SECTION XI - TOXICOLOGICAL INFORMATION

No toxicological information has been generated for this material

SECTION XII - ECOLOGICAL INFORMATION

This product has never been found to present any environmental or ecological problems. Use according to the instructions. Dispose of in a sanitary manner.

SECTION XIII - DISPOSAL CONSIDERATION

Dispose in accordance with federal, state and local regulations. Usually may be flushed down drain with large amounts of water.

SECTION XIV - TRANSPORT INFORMATION

DOT HAZARD CLASS: None.

DOT SHIPPING NAME: Cleaning compound, NOI.

SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations: TSCA-Intentional ingredients are listed; CERCLA RQ-N/A; SARA 302 Components-N/A; Section 311/312-N/A; Section 313 Components-N/A

SECTION XVI - OTHER INFORMATION

Refer to product label for directions and any other cautions.

LEGEND: ND, Not Determined; N/A Not Applicable; NA, Not Available.

NOTICE

All information appearing herein is based upon data obtained from chemical manufacturers and or recognized technical sources. While the information is believed to be accurate, Snyder Manufacturing Corporation makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Snyder Manufacturing Corporation's control and therefore users are responsible for and assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.



HIPERLITH™ MSDS INFORMATION

SECTION I - COMPANY & PRODUCT IDENTIFICATION

TRADE NAME: Husqvarna Hiperlith Densifier
CHEMICAL NAME: Alkaline Salt
DATE: January 7, 2012

PRODUCT CODE: N/A
CAS #: Mixture, no single number applies

SECTION II - COMPOSITION FORMULA - COMPONENT INFORMATION

INTENTIONAL INGREDIENTS
No hazardous ingredients present
12627-14-4

CAS #
Lithium Silicate Salt

SECTION III - HAZARDS IDENTIFICATION

PERMISSIBLE EXPOSURE LEVEL: Undetermined
SKIN: Overexposure may cause some skin dryness.
INHALATION: Overexposure may cause irritation of upper respiratory tract.

EYES: May cause irritation.
INGESTION: May cause nausea.

THIS MATERIAL IS NOT LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA

SECTION IV - FIRST AID MEASURES

EYE CONTACT: Flush with water lifting eyelids.
INHALATION: Remove victim to fresh air.
INGESTION: Do not induce vomiting. Give plenty of water and milk of magnesia.

SKIN CONTACT: Wash skin with soap and water.

SECTION V - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT: None/Setaflash (ASTM 93)
FLAMMABLE LIMITS: N/A LOWER: N/A UPPER: N/A FIRE/EXPLOSION HAZARDS: No unusual hazards.
EXTINGUISHING MEDIA: Foam, CO₂, dry chemical
FIRE FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode and full protective clothing. Use water spray to cool nearby containers and structures.

HMS HAZARD CLASS: Health =1 Flammability =0 Reactivity =0 Other =NA
Ranking: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme

SECTION VI - ACCIDENTAL RELEASE PROCEDURES

SMALL SPILLS: Mop with water and flush to drain with plenty of water.
LARGE SPILLS: Contain with dike, absorb or vacuum to storage container. Dispose in accordance with all regulations.

SECTION VII - HANDLING & STORAGE

STORAGE: Keep cool and dry
HANDLING: Avoid heat.

SECTION VIII - EXPOSURE CONTROL/PERSONAL PROTECTION

EYE AND FACIAL: None required under normal conditions.
RESPIRATORY: None required under normal conditions.
OTHER: None required under normal conditions.
SKIN: None required under normal conditions.
VENTILATION: Local mechanical ventilation is acceptable

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: F 210 SOLUBILITY: Complete pH: 10-11 VOC: 0 %
PERCENT VOLATILE: 75 VAPOR DENSITY: N/A VAPOR PRESSURE: N/A
EVAPORATION RATE (BUTYL ACETATE=1): N/A SPECIFIC GRAVITY: 1.05
APPEARANCE & ODOR: Clear semi viscous liquid, no odor.

SECTION X - STABILITY & REACTIVITY INFORMATION

STABILITY: Stable REACTIVITY: N/A
HAZARDOUS DECOMPOSITION INGREDIENTS: CO2 & CO. HAZARDOUS POLYMERIZATION: Will not occur

SECTION XI - TOXICOLOGICAL INFORMATION

No toxicological information has been generated for this material

SECTION XII - ECOLOGICAL INFORMATION

This product has never been found to present any environmental or ecological problems. Use according to the instructions. Dispose of in a sanitary manner.

SECTION XIII - DISPOSAL CONSIDERATION

Dispose in accordance with federal, state and local regulations. Usually may be flushed down drain with large amounts of water.

SECTION XIV - TRANSPORT INFORMATION

DOT HAZARD CLASS: None. DOT SHIPPING NAME: Cleaning compound, NOI.

SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations: TSCA-Intentional ingredients are listed; CERCLA RQ-N/A; SARA 302 Components-N/A; Section 311/312-N/A; Section 313 Components-N/A

SECTION XVI - OTHER INFORMATION

Refer to product label for directions and any other cautions.

LEGEND: ND, Not Determined; N/A Not Applicable; NA, Not Available.

NOTICE

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HIPERGUARD™ MSDS INFORMATION

SECTION I - COMPANY & PRODUCT IDENTIFICATION

TRADE NAME: Husqvarna Hiperguard™ Sealer
CHEMICAL NAME: Fluoropolymer emulsion
DATE: June 26, 2010

PRODUCT CODE: N/A
CAS #: Mixture, no single CAS # applies

SECTION II - COMPOSITION FORMULA - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS #	TLV (UNITS)	PEL
Isopropyl Alcohol	<6	67-63-0	400 ppm	400ppm
Ethylene Glycol Monobutyl Ether	<6	111-76-2	25 ppm skin	25 ppm

SECTION III - HAZARDS IDENTIFICATION

PERMISSIBLE EXPOSURE LEVEL: Undetermined

EYES: May cause mild eye irritation.

SKIN: May cause mild skin irritation.

INHALATION: Breathing small amounts of this material during normal handling is not likely to cause harmful effects.

INGESTION: Swallowing this material may be harmful.

THIS MATERIAL IS NOT LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA

SECTION IV - FIRST AID MEASURES

EYE CONTACT: Flush with water for 15 minutes lifting eyelids. Get medical attention if necessary.

SKIN CONTACT: Wash with soap and water.

INHALATION: Remove victim to fresh air. Administer artificial respiration if breathing ceases. Get medical attention immediately.

INGESTION: Do not induce vomiting. Call physician or transport to an emergency medical facility.

SECTION V - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT: >250 deg. F.

EXPLOSIVE LIMITS: LOWER: N/D

UPPER: N/D

FIRE/EXPLOSION HAZARDS: None.

EXTINGUISHING MEDIA: Foam, CO2, dry chemical

FIRE FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode and full protective clothing. Use water spray to cool nearby containers and structures.

HMIS HAZARD CLASS: Health =1 Flammability = 0 Reactivity = 0 Other = NA

Ranking: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme

SECTION VI - ACCIDENTAL RELEASE PROCEDURES

SMALL SPILLS: Absorb liquid on vermiculite, floor absorbent or other absorbent material.

LARGE SPILLS: Eliminate all ignition sources. Prevent run off to drains or any bodies of water. Pump or vacuum material to containers for recovery. Absorb remaining material.

SECTION VII - HANDLING & STORAGE

STORAGE: Keep cool and dry. Empty containers may contain fumes. All hazard precautions on this data sheet should be taken when handling empty containers.

HANDLING: Sudden release of hot organic chemical vapors may result in ignition without the presence of obvious ignition sources.

SECTION VIII - EXPOSURE CONTROL/PERSONAL PROTECTION

EYE AND FACIAL: Wear chemical splash goggles.

SKIN: None required under normal conditions.

RESPIRATORY: None required under normal conditions.

VENTILATION: Normal ventilation acceptable under normal conditions.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: >200 F SOLUBILITY: Soluble pH: 7-9

PERCENT VOLATILE: 85% VAPOR DENSITY: N/D VAPOR PRESSURE: N/D

EVAPORATION RATE (BUTYL ACETATE=1): 151 SPECIFIC GRAVITY: ..98 @60 deg F.

APPEARANCE & ODOR: Clear liquid with characteristic odor. VOC: <100 gms/l

SECTION X - STABILITY & REACTIVITY INFORMATION

STABILITY: Stable

REACTIVITY: N/A

HAZARDOUS DECOMPOSITION INGREDIENTS: CO₂, CO, and phosphorous compounds.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION XI - TOXICOLOGICAL INFORMATION

No toxicological information has been generated for this material.

SECTION XII - ECOLOGICAL INFORMATION

This product has never been found to present any environmental or ecological problems. Use according to the instructions. Dispose of in a sanitary manner.

SECTION XIII - DISPOSAL CONSIDERATION

Dispose in accordance with federal, state and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT INFORMATION- 49CFR 172.101:

DOT DESCRIPTION: None required

SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA - Intentional ingredients are listed; CERCLA RQ-40CFR 302.4 (a) - None listed; SARA 302 Components 40 CFR 355 Appendix A - None; Section 311/312 Hazard Class-40CFR 370.2 - Immediate (X) Delayed () Fire (X) Reactive () Sudden release of pressure (); SARA 313 Components 40CFR 372.65 - None; OSHA Process Safety Management 29CFR1910 - None listed; EPA Accidental Release Prevention 40CFR68 - None listed.

International Regulations:

ACQIN (Australia), DSL (Canada), ECL (South Korea), & EINECS (Europe) - Intentional ingredients are listed.

State & Local Regulations:

California Prop 65 - None

SECTION XVI - OTHER INFORMATION

Refer to product label for directions and any other cautions.

LEGEND: ND, Not Determined; N/A Not Applicable; NA, Not Available.

NOTICE

All information appearing herein is based upon data obtained from chemical manufacturers and or recognized technical sources. While the information is believed to be accurate, Snyder Manufacturing Corporation makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Snyder Manufacturing Corporation's control and therefore users are responsible for and assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.



HIPERHARD™ MSDS INFORMATION

SECTION I - COMPANY & PRODUCT IDENTIFICATION

TRADE NAME: Husqvarna Hiperhard Densifier
CHEMICAL NAME: Alkaline Salt
DATE: January 7, 2012

PRODUCT CODE: N/A
CAS #: Mixture, no single number applies

SECTION II - COMPOSITION FORMULA - COMPONENT INFORMATION

INTENTIONAL INGREDIENTS
No hazardous ingredients present
312-76-1

CAS #
Potassium Silicate Salt

SECTION III - HAZARDS IDENTIFICATION

PERMISSIBLE EXPOSURE LEVEL: Undetermined
SKIN: Overexposure may cause some skin dryness.
INHALATION: Overexposure may cause irritation of upper respiratory tract.

EYES: May cause irritation.
INGESTION: May cause nausea.

THIS MATERIAL IS NOT LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA

SECTION IV - FIRST AID MEASURES

EYE CONTACT: Flush with water lifting eyelids.
INHALATION: Remove victim to fresh air.
INGESTION: Do not induce vomiting. Give plenty of water and milk of magnesia.

SKIN CONTACT: Wash skin with soap and water.

SECTION V - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT: None/Setaflash (ASTM 93)
LOWER: N/A
FIRE/EXPLOSION HAZARDS: No unusual hazards.
FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode and full protective clothing. Use water spray to cool nearby containers and structures.

FLAMMABLE LIMITS: N/A
UPPER: N/A
EXTINGUISHING MEDIA: Foam, CO2, dry chemical

HMIS HAZARD CLASS: Health =1 Flammability =0 Reactivity =0 Other =NA
Ranking: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme

SECTION VI - ACCIDENTAL RELEASE PROCEDURES

SMALL SPILLS: Mop with water and flush to drain with plenty of water.
LARGE SPILLS: Contain with dike, absorb or vacuum to storage container. Dispose in accordance with all regulations.

SECTION VII - HANDLING & STORAGE

STORAGE: Keep cool and dry

HANDLING: Avoid heat.

SECTION VIII - EXPOSURE CONTROL/PERSONAL PROTECTION

EYE AND FACIAL: None required under normal conditions.
RESPIRATORY: None required under normal conditions.
OTHER: None required under normal conditions.

SKIN: None required under normal conditions.
VENTILATION: Local mechanical ventilation is acceptable

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: F 210 SOLUBILITY: Complete pH: 11 VOC: 0 %
PERCENT VOLATILE: 60 VAPOR DENSITY: N/A VAPOR PRESSURE: N/A
EVAPORATION RATE (BUTYL ACETATE=1): N/A SPECIFIC GRAVITY: 1.11
APPEARANCE & ODOR: Clear semi viscous liquid, no odor.

SECTION X - STABILITY & REACTIVITY INFORMATION

STABILITY: Stable
HAZARDOUS DECOMPOSITION INGREDIENTS: CO2 & CO.

REACTIVITY: N/A
HAZARDOUS POLYMERIZATION: Will not occur

SECTION XI - TOXICOLOGICAL INFORMATION

No toxicological information has been generated for this material

SECTION XII - ECOLOGICAL INFORMATION

This product has never been found to present any environmental or ecological problems. Use according to the instructions. Dispose of in a sanitary manner.

SECTION XIII - DISPOSAL CONSIDERATION

Dispose in accordance with federal, state and local regulations. Usually may be flushed down drain with large amounts of water.

SECTION XIV - TRANSPORT INFORMATION

DOT HAZARD CLASS: None.

DOT SHIPPING NAME: Cleaning compound, NOI.

SECTION XV - REGULATORY INFORMATION

U.S. Federal Regulations: TSCA-Intentional ingredients are listed; CERCLA RQ-N/A; SARA 302 Components-N/A; Section 311/312-N/A; Section 313 Components-N/A

SECTION XVI - OTHER INFORMATION

Refer to product label for directions and any other cautions.

LEGEND: ND, Not Determined; N/A Not Applicable; NA, Not Available.

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