



# Maritime Helicopters

## November 2017 Quality & Safety Notes



### That Time of Year

By now, it has probably set in that this won't be the first year in history where we skip winter. So we have to get used to the idea again, that Alaska isn't a tropical paradise. And as we deal with all the snow and ice, it's time to mention that the last recordable injury we had as a company, was from slipping on ice! So please pay special attention to the Tips for those injuries!

Please also note the quick review of the Globally Harmonized System (GHS) standard for Hazardous Materials Communication. This month's Safety Data Sheet will cover a pretty common chemical which we all have used.



## **Tips for Preventing Slip & Fall Injuries**

Fresh snow fall, packed snow, freezing rain, ice, snow-covered ice, rough frozen slush, snow stuck to your footwear and other winter conditions; we sometimes take these conditions for granted or our mind is somewhere else and that's when we are most vulnerable to slip & fall. These are some pretty serious conditions to navigate through and not being fully alert and cautious can result in some pretty serious consequences.

Here are some tips to help you get through the season standing upright and injury free.

Be aware of surface conditions and slow down; take small steps.

Focus on what you are doing. Walk attentively on hazardous surfaces, you may want to take smaller steps or shuffle on ice. In icy weather, it's safer to keep feet on the ground by shuffling. This is one time to leave the spring out of your step

Choose your path carefully and avoid icy conditions whenever possible.

Avoid sudden movements when stepping onto a hard surface. Although most stores and offices take precautions to prevent slippery areas, it's easy for a tile or concrete floor to have slippery puddles during wet weather.

Keep your eyes on your feet. Forget what's taught in dance class--it's safest to watch your feet on uneven surfaces, especially if you're carrying articles.

Get the snow off from the bottom of your footwear when entering buildings.

ON campus containers of sand have been placed at some building entrances and sidewalks by Facilities Management. When you see icy or hard packed snow conditions, consider spreading some sand. You might help to prevent an accident or injury.

Report trouble spots to building maintenance personnel on or off campus.

Select appropriate footwear. Some materials are very slippery on snow and ice (plastic, leather, foam). You'll get superior traction with rubber soles having deep traction grips. Strap-on non-slip shoe treads are available in stores.

Get an earlier start to your destination. It takes more time to navigate winter walkways safely so it's a good idea to leave a little earlier to get to your destination in time and injury free.

Be extremely careful getting out of your vehicle. If possible, swing your legs around and place both feet on the pavement before you attempt to stand. Steady yourself on the door frame until you have gained your balance. Avoid reaching beyond your center of balance to take hold of the door, because this might cause a fall.

Don't take shortcuts. Always use sidewalks and the cleared paths in parking lots. Never walk between parked cars. Be especially careful when stepping to different levels — down or up steps or from curbs (don't step on curbs). And remember, grassy slopes can be as dangerous as snowy steps.

## SDS of the Month: Klean Strip Odorless Mineral Spirits

I wanted to take a little time this month to bring up something about the Safety Data Sheets which we use as part of our (and OSHA's) Hazardous Communication (HAZCOM) Standard. Hopefully, by now, everyone has had some kind of training in the Globally Harmonized System for HAZCOM and so realize, that as of 2015, all chemical manufacturers should be using the newer Safety Data Sheets instead of the old Material Safety Data Sheets.

**Shockingly enough**, the Safety Data Sheet is not yet standard. If you access our 3E Database and retrieve the "most current" SDS, you'll find that you are very often looking at an old format MSDS. Lesson? The real world moves slower than the regulators. Acquiring new & accurate SDSs is time consuming and costly. It may be a few years still.

In the meantime, I've picked a chemical this month, which will show what one of the new Safety Data Sheets ***should*** look like. Also, it's a chemical that most of us should be familiar with. If you've ever washed your paint brushes in Mineral Spirits after painting the garage, you've probably had the familiar one-gallon jug of this common "petroleum distillate" in your home.

Please take this few minutes to look at this Safety Data Sheet (presented in its entirety as opposed to most months) and look at the format as well as the hard data:



# SAFETY DATA SHEET

## Klean Strip Odorless Mineral Spirits

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Printed: 04/16/2015

Revision: 04/16/2015

Supersedes Revision: 03/26/2015

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Klean Strip Odorless Mineral Spirits	
Reference #:	1631.1	
Company Name:	W. M. Barr 2105 Channel Avenue Memphis, TN 38113	Phone Number: (901)775-0100
Web site address:	www.wmbarr.com	
Emergency Contact:	3E 24 Hour Emergency Contact	(800)451-8346
Information:	W.M. Barr Customer Service	(800)398-3892
Intended Use:	Paint, stain, and varnish thinning.	
Synonyms:	GKSP94006P, QKSP94005, QKSP94205, GKSP94006, GKSP94214	
Additional Information	This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.	

### 2. HAZARDS IDENTIFICATION

Aspiration Toxicity, Category 1

Flammable Liquids, Category 3



GHS Signal Word:	Danger
GHS Hazard Phrases:	H304: May be fatal if swallowed and enters airways. H226: Flammable liquid and vapor.
GHS Precaution Phrases:	P233: Keep container tightly closed. P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P280: Wear protective gloves/protective clothing/eye protection/face protection. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting equipment. P243: Take precautionary measures against static discharge. P242: Use only non-sparking tools.
GHS Response Phrases:	P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331: Do NOT induce vomiting. P370+378: In case of fire, use dry chemical to extinguish. P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
GHS Storage and Disposal Phrases:	P405: Store locked up. P501: Dispose of contents/container according to local, state and federal regulations. P403+235: Store in cool/well-ventilated place.

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## Klean Strip Odorless Mineral Spirits

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Hazard Rating System:

<b>HEALTH</b>	*	1
<b>FLAMMABILITY</b>	2	2
<b>PHYSICAL</b>	0	0
<b>PPE</b>		<b>X</b>



HMIS:

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects  
(Acute and Chronic):

Inhalation Acute Exposure Effects:

Vapor concentration may cause headache, dizziness, irritation of the respiratory tract, eye irritation, stupor, depression of the central nervous system, watering of the eyes, weakness, nausea, muscle twitches, and kidney effects. Aspiration into lungs may cause pneumonia or death. Severe overexposure may cause convulsions, unconsciousness, and death.

Skin Contact Acute Exposure Effects:

May cause irritation.

Eye Contact Acute Exposure Effects:

Liquid contact may cause irritation.

Ingestion Acute Exposure Effects:

Harmful or fatal if swallowed. May cause nausea, weakness, muscle twitches, gastrointestinal irritation, diarrhea, unconsciousness, and death.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Repeated or prolonged skin contact may cause redness, irritation, and scaling of the skin. May cause skin irritation, anemia, bone marrow damage, liver damage, and jaundice.

Medical Conditions Generally None known.

Aggravated By Exposure:

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
64742-47-8	Hydrotreated light distillate (petroleum)	100.0 %	OA5504000

### 4. FIRST AID MEASURES

Emergency and First Aid  
Procedures:

Inhalation:

If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin contact:

Wash with soap and large quantities of water for at least 15 minutes. Seek medical attention if irritation from contact persists.

Eye contact:

Immediately flush eyes with water, remove any contact lens, continue flushing with water for at least 15 minutes. Get medical attention.

Ingestion:

Do not induce vomiting. Call your poison control center, hospital emergency room, or physician immediately.

**SAFETY DATA SHEET**  
**Klean Strip Odorless Mineral Spirits**

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<b>Signs and Symptoms Of Exposure:</b>	Primary routes of exposure: Inhalation, ingestion, and dermal.
<b>Note to Physician:</b>	Call your local poison control center for further instructions.

**5. FIRE FIGHTING MEASURES**

<b>Flash Pt:</b>	NFPA Class II > 105.00 F
<b>Explosive Limits:</b>	LEL: 0.8                      UEL: 6
<b>Autoignition Pt:</b>	No data.
<b>Suitable Extinguishing Media:</b>	Use carbon dioxide, dry chemical powder, or foam.
<b>Fire Fighting Instructions:</b>	Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.
<b>Flammable Properties and Hazards:</b>	No data available.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Steps To Be Taken In Case Material Is Released Or Spilled:</b>	<p>Clean-up: Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources, keep flares, smoking or flames out of hazard area.</p> <p>Small spills: Take up the spilled liquid with sand, earth, or other noncombustible absorbent material and place in a plastic container where applicable.</p> <p>Large spills: Dike far ahead of spill for later disposal.</p>
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**7. HANDLING AND STORAGE**

<b>Precautions To Be Taken in Handling:</b>	Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.
<b>Precautions To Be Taken in Storing:</b>	Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
64742-47-8	Hydrotreated light distillate (petroleum)	No data.	TLV: 200 mg/m3	No data.
<b>Respiratory Equipment (Specify Type):</b>	For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.			
<b>Eye Protection:</b>	Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.			
<b>Protective Gloves:</b>	Wear impermeable gloves. Gloves contaminated with product should be discarded.			

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<b>Other Protective Clothing:</b>	Promptly remove clothing that becomes soiled with product. Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.
<b>Engineering Controls (Ventilation etc.):</b>	Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering -- Stop -- ventilation is inadequate. Leave area immediately.
<b>Work/Hygienic/Maintenance Practices:</b>	A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical States:</b>	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
<b>Appearance and Odor:</b>	Colorless to light yellow Solvent odor
<b>Melting Point:</b>	No data.
<b>Boiling Point:</b>	318.00 F - 354.00 F
<b>Autoignition Pt:</b>	No data.
<b>Flash Pt:</b>	> 105.00 F
<b>Explosive Limits:</b>	LEL: 0.8                      UEL: 6
<b>Specific Gravity (Water = 1):</b>	0.78
<b>Vapor Pressure (vs. Air or mm Hg):</b>	No data.
<b>Vapor Density (vs. Air = 1):</b>	5 Air = 1
<b>Evaporation Rate:</b>	No data.
<b>Solubility in Water:</b>	No data.
<b>Solubility Notes:</b>	Very slightly soluble in cold water (<0.1% w/w)
<b>Percent Volatile:</b>	100.0 % by weight.
<b>VOC / Volume:</b>	780.0000 G/L
<b>Additional Physical Information</b>	Conductivity = <5 picosiemens/meter

### 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
<b>Conditions To Avoid - Instability:</b>	No data available.
<b>Incompatibility - Materials To Avoid:</b>	Incompatible with strong oxidizing agents.
<b>Hazardous Decomposition Or Byproducts:</b>	Thermal decomposition may produce carbon monoxide and carbon dioxide.
<b>Possibility of Hazardous Reactions:</b>	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>
<b>Conditions To Avoid - Hazardous Reactions:</b>	No data available.

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**11. TOXICOLOGICAL INFORMATION**

Toxicological Information: Refer to section 2 for acute and chronic effects.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
64742-47-8	Hydrotreated light distillate (petroleum)	n.a.	n.a.	A4	n.a.

**12. ECOLOGICAL INFORMATION**

No data available.

**13. DISPOSAL CONSIDERATIONS**

Waste Disposal Method: Dispose in accordance with applicable local, state, and federal regulations.

**14. TRANSPORT INFORMATION**

**LAND TRANSPORT (US DOT):**

DOT Proper Shipping Name: Paint Related Material, Not Regulated  
 DOT Hazard Class:  
 UN/NA Number:

**MARINE TRANSPORT (IMDG/IMO):**

IMDG/IMO Shipping Name: Paint Related Material

UN Number:	EMS: F-E, S-E  UN1	Packing Group:	III
Hazard Class:		IMDG MFAG Number:	
IMDG EMS Page:			

**AIR TRANSPORT (ICAO/IATA):**

ICAO/IATA Shipping Name: Paint Related Material

	Packaging Instructions: See IATA Dangerous Goods Regulations	
UN Number:	1263	Packing Group: III
Hazard Class:		

**Additional Transport Information:**

The shipper may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

**15. REGULATORY INFORMATION**

**EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
64742-47-8	Hydrotreated light distillate (petroleum)	No	No	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute (immediate) Health Hazard
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Chronic (delayed) Health Hazard
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fire Hazard
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Sudden Release of Pressure Hazard
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Reactive Hazard

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CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
64742-47-8	Hydrotreated light distillate (petroleum)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
<b>Regulatory Information Statement:</b>	All components of this material are listed on the TSCA Inventory or are exempt.	
<b>16. OTHER INFORMATION</b>		
<b>Revision Date:</b>	04/16/2015	
<b>Preparer Name:</b>	W.M. Barr EHS Department (901)775-0100	
<b>Additional Information About This Product:</b>	No data available.	
<b>Company Policy or Disclaimer:</b>	The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.	

See, even relatively commonly used chemicals aren't particularly safe in all situations. Isaac, make sure you are wearing your splash goggles!

## OLD BUSINESS

### Splash Goggles

I am trying to make sure that everyone that works with paints or solvents (and any other eye hazards) has **SPLASH GOGGLES** available! These are **NOT** the same as safety goggles with eye shields! You know the ones I'm talking about. No, it's not about making you look like you're in High School Shop Class. Some of our chemicals like the Zep Formula 50 require splash goggles instead of safety glasses. Please let me know my email or through your audit sheets if you don't have any of these...



We're doing pretty well at getting the workforce trained on Adult First Aid/CPR/AED. There were 24 employees trained in Fairbanks in October with another class being taught on November 28<sup>th</sup>. Per OSHA, the intent is that all the remote site pilots and mechanics certified for this class this fall and winter (currency is every two years). The class in Homer will be 0800 on December 18<sup>th</sup>. The class takes approximately 4 ½ hours and we'll have an add-on for Blood borne Pathogens class which takes about a half hour. The Blood borne Pathogens class is for all employees. Dave B. has the list for the Red Cross Certification class, so even if you do not work remotely, and want to get certified/recertified, let Dave know.

## Incident Reporting: November

### **FIR: 11/21/2017: Bell 407, N308H, Oil Cooler Fan Shaft**

During preflight, the pilot rotated the m/r blades and heard a metallic knocking sound. Closer investigation found the aft oil cooler shaft bearing had a large amount of radial play. Fairbanks lead mechanic was notified

Removed and replaced oil cooler, fan shaft, assembly. Complete balancing of fan shaft with bearing in limits. The removed oil cooler assembly had been installed 118.9 hours prior and at the time of install the after bearing had not been properly seated on the shaft. Causing movement. The shaft and bearings were new at the time of install. The shaft was \$7,900.00 and the bearing was \$1400.00

The comprehensive fix will be a *revision in the Bell 407 AAIP* form A1720 to include a feeler gauge check between the bearing and dust shield after the bearing is torqued to ensure proper seating of the bearing. Stay tuned for the change!

### **FIR: 10/30/2017: Bell 407, N308MH Fuel Transfer Lights**

At last shutdown during oil-cooler balance, during aircraft shutdown, the FUEL Boost/XFR-Off step, the transfer lights failed to illuminate.

Write-up transferred to logbook as MEL and added to corrective action block on front of logbook. Mechanic checked all connectors and ground contacts. No defects then noted. MEL was cleared.

### **FIR: 11/30/2017: Bell 407, N407RH Engine Start Issues**

Attempting to start engine at 5,000' and 4 deg. Celsius, aircraft experienced a high temperature start abort (880 degree C). Second Start was attempted with an Alternate Start Procedure with the same result, after start "latched" the temperature went high and FADEC shut down the engine. Both of these starts had all electrical components turned off except for the fuel switch and the fuel pumps. One more alternate start was attempted with the same result. The Chief Pilot was called from the remote site. After discussion, a normal start was attempted with the fuel pumps OFF. Temperatures were not quite as high (860C) but start was still aborted by FADEC. One last attempt was made with the fuel pumps off using an Alternate Start Procedure and the aircraft started. Temps were in the 800-820 range. Flight back to home station was uneventful. Aircraft was inducted for its annual inspection upon return. Troubleshooting will continue before release after annual.

### **GOR: 11/07/2017: Bell 407H, N309MH Engine Starter**

During the Turbine replacement on a rental, engine turbine, the starter was removed. Crew found the shroud was dented which pushed the shroud and screen into the fan blades. The blades cut the screen enough to disconnect the screen from the shroud. The starter was installed 20 hours prior to this removal, and was serviceable at that time (and was 324.8 hours from overhaul).

Starter sent to overhaul and awaiting results. Probable cause is that the starter was damaged either during handling of it during installation or damaged during shipment prior to installation. Either way the installing Mechanic failed to notice this damage. Might be a good idea to build more wooden shipping crates for our starters. These starters are so heavy that a cardboard box without having the expanding foam type of packing is hard to keep from getting damaged.

## Last Words

**December's Safety Notes will attempt to wrap up 2017. I think we've made great strides this year with customer compliance, OSHA Safety, and lowering our human factors incidents. Please have a safe Holiday Season and work/fly safe!**

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Dennis S. Busch

Quality and Safety Manager

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MARITIME HELICOPTERS  
PUBLICATIONS  
ROUTING MEMORANDUM

**DATE: 5/26/17**

**TO: Ak All**

**FROM: Quality/Safety Department**

**SUBJECT: November Safety Memo**

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***Please complete the verification of receipt below and return this form to the Records Department in Fairbanks via email to [faiadmin@maritimehelicopters.com](mailto:faiadmin@maritimehelicopters.com) or by fax to (907)452-4539***

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**BY SIGNING THIS FORM I ACKNOWLEDGE** I have reviewed and will comply with the memo listed above

**EMPLOYEE SIGNATURE**

**DATE**