



SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking	
1.1 PRODUCT Identifier	
Product Identity	UMAC 46
Alternate Names	UMAC 46, Synthetic Lubricant with additives
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Intended Use	Lubricant, Compressor Lubricant, Refrigeration Lubricant
Application Method	See Technical Data Sheet
1.3 Details of the supplier of the safety data sheet	
Company Name	BVA Inc. 29222 Trident Industrial Blvd. New Hudson, Mi 48165 USA
Customer Service	+1-248-348-4920
1.4 Emergency 24 Hour Telephone	
Emergency information services / official advisory body:	
Emergency telephone numbers	USA – Chemtrec: 800-424-9300 All Others – Chemtrec: +1-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION	
2.1 Classification of the substance or mixture	
2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)	
The mixture is not classified as dangerous in the terms of the Regulation (EC) 1272/2008 (CLP).	
2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments)	
The mixture is not classified as dangerous in the terms of the directive 1999/45/EC.	
2.2 Label elements	
2.2.1 Labeling according to Regulation (EC) 1272/2008 (CLP)	
Not applicable	
[Prevention]:	
No CLP prevention statements	
[Response]:	
No CLP response statements	
[Storage]:	
No CLP storage statements	
[Disposal]:	
No CLP disposal statements See Technical Data Sheet.	
Precautionary Statement:	Avoid contact with skin and eyes.



IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF ON SKIN: Wash with plenty of soap and water.

2.3 Other hazards

This product contains no PBT/vPvB chemicals.

SECTION 3: Composition/information on ingredients

3.1 Substance/mixture NA
3.2 Mixture
Other means of identification Not available.
CAS number/other identifiers
CAS number Not applicable.
EC number Mixture
Product code Not Available

Hazardous Substance(s) or Complex Substance(s) required for disclosure

No Hazardous Substance(s) or Complex Substance(s) required for disclosure

Ingredient Name	CAS #	EC #	Concentration *	Symbols /Risk Phrases
				None Required

* Concentration is by weight percent

Classification according to Directive 67/548/EEC

Classification according to Regulation (EC) 1272/2008 (CLP)

INGREDIENT COMMENTS This proprietary mixture contains no Hazardous Ingredients (2001/58/EC) If no EU or no CAS numbers are given for classified components the raw material supplier has applied for / will apply for exemption, have not sent the complete information yet , or there could be no obligation to give the EU or CAS numbers

SECTION 4 : FIRST AID MEASURES

4.1 Description of first aid measures

General:	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin Contact:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.



Eye:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention if irritation occurs.
Ingestion:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye Contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin Contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye Contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin Contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

SECTION 5 : FIRE FIGHTING PROCEDURES

5.1 Extinguishing Media

Suitable extinguishing media	Suitable extinguishing media for the surrounding fire should be used. Water spray. Carbon dioxide. Alcohol resistant foam. Dry chemical powder. Use water spray to cool containers
Unsuitable extinguishing media	None Known

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:
 Unusual Fire and Explosion Hazards:

Smoke, Fume, Carbon Dioxide, Carbon Monoxide, Aldehydes,
 Container may rupture from gas generation in a fire situation.
 Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

5.3 Special protective actions for fire-fighters

In case of fire and/or explosion do not breathe fumes.
 Protective respirator with independent air supply.
 According to size of fire
 Full protection, if necessary
 Cool container at risk with water.
 Dispose of contaminated extinction water according to official regulations.

ERG Guide Number -

5.4 Additional Information
 FLAMMABILITY PROPERTIES

Flash Point ASTM D92 (open cup) °C (°F) 210 (410)

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
 Autoignition Temperature: N/D



SECTION 6 : ACCIDENTAL RELEASE MEASURES (SPILL OR LEAK HANDLING PROCEDURES)

6.1 Personal precautions, protective equipment and emergency procedures:

Remove sources of ignition; do not turn lights or unprotected electrical equipment on or off. In case of a major spill or spillage in a confined space evacuate the area and check that solvent vapor levels are below the Lower Explosive Limit before re-entering.
 Ensure sufficient supply of air.
 Avoid contact with eyes or skin.
 If applicable, caution - risk of slipping

For non-emergency personnel No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

General Ensure sufficient supply of air.
 Avoid contact with eyes or skin.
 If applicable, caution - risk of slipping

Small spill Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose via a licensed waste disposal contractor.

Large spill Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7 : HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 General recommendations	<p>Ensure good ventilation. Avoid contact with eyes. Avoid long lasting or intensive contact with skin. Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.</p>
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	Observe directions on label and instructions for use.
7.1.2 Notes on general hygiene measures at the workplace	<p>General hygiene measures for the handling of chemicals are applicable.</p> <p>Wash hands before breaks and at end of work.</p> <p>Keep away from food, drink and animal feeding stuffs.</p> <p>Remove contaminated clothing and protective equipment before entering areas in which food is consumed</p>

7.2 Conditions for safe storage, including any incompatibilities

Storage	<p>Store product closed and only in original packing.</p> <p>Not to be stored in gangways or stair wells.</p> <p>Store in accordance with local regulations.</p> <p>Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.</p> <p>Do not store in open or unlabeled containers.</p> <p>Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening.</p> <p>Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.</p> <p>Use appropriate containment to avoid environmental contamination.</p> <p>Shelf life: Use within 24 Months</p> <p>See section 2 for further details. - [Storage]:</p>
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7.3 Specific end uses

	<p>No information available at present.</p> <p>See the technical data sheet on this product for further information.</p>
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SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

	<p>No exposure limit value known.</p> <p>Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL.</p> <p>Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s)</p>
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8.2 Exposure controls

8.2.1 Appropriate engineering controls	<p>Ensure good ventilation. This can be achieved by local suction or general air extraction. If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.</p> <p>Applies only if maximum permissible exposure values are listed here.</p>
8.2.2 Appropriate engineering controls	



	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
8.2.3 Environmental exposure controls	
	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measures	
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
Skin protection	
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Impermeable protective clothing. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9 : PHYSICAL & CHEMICAL PROPERTIES			
Information on basic physical and chemical properties			
General Information		(Health Safety and Environmental Information)	
Physical State	Liquid	Flash Point typical °C (°F)	>230 (446), See Section 5
Color	Clear pale yellow	Flammable Limits	Lower: No test data available Upper: No test data available
Odor	Characteristic	Flammability (solid, gas)	Not applicable to liquids
Odor Threshold	ND	Autoignition Temperature:	ND
Other Information		Vapor Density (Air=1)	> 1 at 101 kPa Calculated
Melting Point	No Data	Vapor Pressure	< 0.013 kPa (0.1 mm Hg) at 20°C
Freezing Point	ND (See Pour Point)	Decomposition Temperature	ND
Boiling Point °C (°F)	>250 (482) calculated	Organic Volatiles	0.0 g/l EPA 24 method
Density at 20°C	0.9815 -0.9835	Evaporation Rate (N-Butyl Acetate = 1):	ND
Viscosity cSt at 40C +/- 10%	45	pH	NA
Pour Point °C (°F)	-25 (-13)	Octanol-Water Partition Coefficient (Kow)	No data (<3 typical)
Oxidizing Properties	See Sections 3, 15, 16.	Solubility in Water	Not soluble



SECTION 10 : STABILITY & REACTIVITY	
10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients. No dangerous reaction known under conditions of normal use.
10.2 Chemical stability	The Product is stable
10.3 Possibility of hazardous reactions	No Hazardous reactions known. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to Avoid:	Excessive Heat. No specific data. Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. High energy sources of ignition.
10.5 Incompatible Materials:	See also section 7. Avoid contact with strong alkalis. Avoid contact with strong oxidizing agents. Avoid contact with strong acids.
10.6 Hazardous decomposition products	See also section 5.2 No decomposition when used as directed

SECTION 11: TOXICOLOGICAL INFORMATION	
Sensitization	
Skin :	There is no data available.
Respiratory :	There is no data available.
Mutagenicity	There is no data available.
Carcinogenicity	There is no data available.
Reproductive toxicity	There is no data available.
Teratogenicity	There is no data available.
Specific target organ toxicity (single exposure)	There is no data available.
Specific target organ toxicity (repeated exposure)	There is no data available.
Aspiration hazard	There is no data available.
Information on the likely routes of exposure	Routes of entry anticipated: Oral, Dermal, Inhalation.
Potential acute health effects	
Eye contact	There may be irritation and redness.
Inhalation	There is no data available
Skin contact	There may be mild irritation at the site of contact.
Ingestion	No known significant effects or critical hazards
Symptoms related to the physical, chemical and toxicological characteristics	
Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.



Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Delayed and immediate effects and also chronic effects from short and long term exposure	
Short term exposure	No known significant effects or critical hazards.
Potential immediate effects	No known significant effects or critical hazards.
Potential delayed effects	No known significant effects or critical hazards.
Long term exposure	No known significant effects or critical hazards.
Potential immediate effects	No known significant effects or critical hazards.
Potential delayed effects	No known significant effects or critical hazards.
Potential chronic health effects	
General	No known significant effects or critical hazards.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity
 Ecotoxicity values: No data available.

12.2. Persistence and degradability
 Persistence and degradability: Not biodegradable.

12.3. Bioaccumulative potential
 Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil
 Mobility: No data available.

12.5. Results of PBT and vPvB assessment
 PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other
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SECTION 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal operations: Deposit into or on to land (e.g. landfill, etc.)
Waste code number: 13 02 06
Disposal of packaging: Dispose of as normal industrial waste.
NB: The user's attention is drawn to the possible existence of regional or national regulations regarding this



product.

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)

13 02 06 synthetic engine, gear and lubricating oils

Recommendation:

Pay attention to local and national official regulations

E.g. suitable incineration plant.

For contaminated packing material

Pay attention to local and national official regulations

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

SECTION 14 : TRANSPORT INFORMATION

Transport class: This product does not require a classification for transport.

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No	No	No
Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.
 Consult IMO regulations before transporting ocean bulk



SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Legislation

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

For classification and labelling see Section 2.

Observe restrictions: n.a.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures

15.3 Other

Complies with the following national/regional chemical inventory requirements:

IECSC, NDSL, EINECS, PICCS, TSCA

SECTION 16: OTHER INFORMATION

This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

These details refer to the product as it is delivered.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Not applicable

History

Date of issue: 22 June 2015

AC = Article Categories

acc., acc. To = according, according to

ACGIH = American Conference of Governmental Industrial Hygienists

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL = Acceptable Operator Exposure Level

AOX = Adsorbable organic halogen compounds

approx. = approximately

Art., Art. no. = Article number

ATE = Acute Toxicity Estimate, Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM = Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA = Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF = Bioconcentration Factor

BGV = Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT = Butylhydroxytoluol (= 2,6-Di-*t*-butyl-4-methyl-phenol)

BMGV = Biological monitoring guidance value (EH40, UK)

BOD = Biochemical oxygen demand



BSEF = Bromine Science and Environmental Forum
Bw = body weight
CAS = Chemical Abstracts Service
CEC = Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO = Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC = Collaborative International Pesticides Analytical Council
CLP = Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR = carcinogenic, mutagenic, reproductive toxic
COD = Chemical oxygen demand
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
N/D = Not determined, N/A = Not applicable

KEY TO THE RISK CODES CONTAINED IN SECTION 2 AND 3 OF THIS DOCUMENT (for information only):

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