



SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

SDS # : 083821

MARKAL H

Date of the previous version: 2015-10-13

Revision Date: 2018-09-17

Version 2

1. IDENTIFICATION

Product identifier

Product name MARKAL H

Other means of identification

Product Code(s) 083821

Number RQ2
Substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Identified uses Lubricant. Industrial applications .

Uses advised against Do not use for any purpose other than the one for which it is intended

Details of the supplier of the safety data sheet

Supplier Address TOTAL Specialties USA, Inc.
1201 Louisiana St. Suite 1800
Houston, TX 77002
Phone: 713-483-5000

Contact Point Technical/ HSEQ

E-mail Address ProductSafety@total.com***

Emergency telephone number

Company Phone Number +1 (908) 862-9300
Emergency telephone +1 866 928 0789 (24h/24, 7d/7)
+1 215 207 0061 (24h/24, 7d/7)

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation - **Category 2*****
Serious eye damage/eye irritation - **Category 2A*****

Label elements

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**WARNING*****

Causes skin irritation
Causes serious eye irritation***

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection***

Precautionary Statements - Response

Specific treatment (see supplemental first aid instruction on this label)***

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention***

Skin

IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse***

Hazards not otherwise classified (HNOC)

None known

Other information

Physical-Chemical Properties Contaminated surfaces will be extremely slippery.***

Environmental properties Should not be released into the environment.***

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical Name	CAS-No	Weight %
Sebacic acid	111-20-6	10-30

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

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First aid measures for different exposure routes

General advice	Show this material safety data sheet to the doctor in attendance. Immediate medical attention is not required. If symptoms persist, call a physician. IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.***
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.***
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Immediate medical attention is required.***
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. Inhalation of high concentrations of vapor or aerosols may cause irritation of the upper respiratory tract.***
Ingestion	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.***
Protection of First-aiders	Use personal protective equipment.***

Most important symptoms/effects, acute and delayed

Skin contact	Harmful in contact with skin. Irritating to skin. Immediate medical attention is required.
Eye contact	Severely irritating to eyes.
Inhalation	Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system.***
Ingestion	Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.***
Symptoms	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Redness. Itching.

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

Notes to physician Treat symptomatically.***

5. FIRE-FIGHTING MEASURES

<u>Suitable Extinguishing Media</u>	Foam. Carbon dioxide (CO ₂). ABC powder. Water spray or fog.***
<u>Unsuitable Extinguishing Media</u>	Do not use a solid water stream as it may scatter and spread fire.***
<u>Special Hazard</u>	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.***
<u>Explosion Data</u>	

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Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate non-essential personnel.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

General Information Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery.***

Other information See Section 12 for additional information.

Environmental precautions

General Information Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. Try to prevent the material from entering drains or water courses. See Section 12 for additional Ecological Information.***

Methods and material for containment and cleaning up

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Powdered material may form explosive dust-air mixtures. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.***

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.***

Hygiene measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing is recommended. Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Use personal protective equipment as required. Wash hands before breaks and at the end of workday. Wash hands with water as a precaution. Avoid breathing vapors, mist or gas. Do not wash off with: Fuel. Solvent. Abrasive. Avoid extended and repeated contact with the skin as this may cause skin conditions, which may also be aggravated by minor injuries or by contact with soiled clothing. Avoid prolonged and repeated contact with the skin, especially with used or waste product. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.***

Conditions for safe storage, including any incompatibilities

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Technical measures/Storage conditions

Keep out of reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture.***

Materials to Avoid

Strong oxidizing agents.***

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure limits**

Mineral oil mist:
USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)***

Exposure controls**Engineering Measures**

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.***

Individual protection measures, such as personal protective equipment**General Information**

Protective engineering solutions should be implemented and in use before personal protective equipment is considered.***

Eye/face protection

If splashes are likely to occur, wear: Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots.

Hand Protection

Hydrocarbon-proof gloves. Fluorinated rubber. Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

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Hygiene measures

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9. PHYSICAL AND CHEMICAL PROPERTIES**Physical and chemical properties**

Appearance	tablet
Color	off-white
Physical State @20°C	solid
Odor	None
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH		Not applicable	
Melting point/range		Not applicable***	
Boiling point/boiling range		No information available***	
Flash point	151 °C 304 °F		Cleveland Open Cup (COC) ASTM D 92 Cleveland Open Cup (COC). ASTM D 92.
Evaporation rate		Not applicable	
Flammability Limits in Air		No information available	
upper	***	No information available	
Lower	***	No information available	
Vapor Pressure		Not applicable	
Vapor density		Not applicable	
Relative density	> 1	@ 25 °C	
Density	>1 g/cm3	@ 25 °C	
Water solubility		Insoluble	
Solubility in other solvents		No information available	
logPow	> 1		
Autoignition temperature	570 °C 1058 °F		
Decomposition temperature		No information available	
Viscosity, kinematic		Not applicable	
Explosive properties	Not explosive		
Oxidizing Properties	Not applicable***		
Possibility of hazardous reactions	See section 10		
<u>Other information</u>			

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Freezing Point No information available

Note • Please refer to Technical Data Sheet for further information

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under recommended storage conditions.***
Possibility of hazardous reactions	None under normal processing.***
Conditions to avoid	Heat (temperatures above flash point), sparks, ignition points, flames, static electricity. Take precautionary measures against static discharges. Strong oxidizing agents.***
Incompatible materials	Strong oxidizing agents.***
Hazardous Decomposition Products	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.***

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Principle Routes of Exposure	Inhalation, Ingestion, Eye contact, Skin contact.
Symptoms	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Redness. Itching.
Skin contact	Harmful in contact with skin. Irritating to skin. Immediate medical attention is required.
Eye contact	Severely irritating to eyes.
Inhalation	Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system.***
Ingestion	Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.***

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Acute toxicity - Product Information**

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Oral	Not classified based on available data***
Dermal	Not classified based on available data***

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Inhalation

Not classified based on available data***

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sebacic acid 111-20-6	LD50 > 5000 mg/l (Rat)	LD50 > 2000 mg/kg (Rat - OECD 402)	

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

Irritating to eyes.***

Sensitization

Not classified as a sensitizer.

Carcinogenicity

This product is not classified carcinogenic.

Mutagenicity

This product is not classified as mutagenic.

Germ Cell Mutagenicity

Not classified based on available data.***

Reproductive toxicity

This product does not present any known or suspected reproductive hazards.

Target Organ Effects (STOT)

None known.***

STOT - single exposure

Not classified based on available data.***

STOT - repeated exposure

Not classified based on available data.***

Other adverse effects

Characteristic skin lesions (pimples) may develop following prolonged and repeated exposures (contact with contaminated clothing).***

Aspiration hazard

Not classified based on available data.***

12. ECOLOGICAL INFORMATION**Ecotoxicity****Acute aquatic toxicity - Product Information**

No experimental data available

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates	Toxicity to microorganisms
Sebacic acid 111-20-6	EL50(72h) 38.7 mg/l (Skeletonema costatum - static)	LC50 (96h) > 100 mg/l (Danio rerio - semi static - OECD 203)	EC50 (48h) > 100 mg/l (Daphnia magna - static - OECD 202)	

Chronic aquatic toxicity - Product Information

No experimental data available

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms

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Sebacic acid 111-20-6	NOEC(72h) 3 mg/l (Skelettonema costatum - static)			
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Effects on terrestrial organisms No information available.*****Persistence and degradability****General Information** No information available.**Bioaccumulative potential****Product Information** No information available.**logPow** > 1**Component Information**

Chemical Name	log Pow
Sebacic acid 111-20-6	1.5

Mobility

Soil No information available
Air No information available
Water No information available

Other adverse effects**General Information** No information available**13. DISPOSAL CONSIDERATIONS****Waste treatment****Waste Disposal Methods** Dispose of in accordance with local regulations.*****Contaminated packaging** Dispose of in accordance with local regulations.**California Hazardous Waste Codes** 221*****14. TRANSPORT INFORMATION**

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<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO/IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>ADR/RID</u>	Not regulated
<u>ADN</u>	Not regulated

15. REGULATORY INFORMATION**International Inventories**

All the substances contained in this product are listed or exempted from listing in the following inventories:
U.S.A. (TSCA)***

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes***
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

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U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

No information available

16. OTHER INFORMATION

NFPA	Health Hazard 2	Flammability 1***	Instability 0	Special hazards -
HMIS	Health Hazard 2	Flammability 1***	Physical Hazard 0	Personal protection X

NFPA (National Fire Protection Association)

HMIS (Hazardous Material Information System)

Hazards are split into categories each with a 0 to 4 rating, 0 meaning no hazard and 4 meaning high hazard

Revision Date: 2018-09-17**Revision Note** *** Indicates updated section**Abbreviations, acronyms**

ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals

LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

Legend

Section 8

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and Health

TLV - Threshold Limit Values

PEL - Permissible Exposure Limits

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IDHL - Immediately Dangerous to Life or Health concentrations

TWA - Time Weight Average

STEL - Short Term Exposure Limits

S* - Skin notation

TSCA - Toxic Substance Control Act

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the Safety Data Sheet

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