SAFETY DATA SHEET

EXXAL™ 13

Section 1. Identification

Product name : EXXAL™ 13

see Section 16 for Synonyms

Product description : Alcohol

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Chemical feedstock

Uses advised against : This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above.

Supplier : EXXONMOBIL MARINE LIMITED
ERMYN HOUSE
MAILPOINT 31, ERMYN WAY
LEATHERHEAD KT22 8UX United Kingdom

24 Hour Emergency Telephone : 00801-49-1821 / +886 2 7741 4207 (CHEMTREC)

Supplier General Contact : (UK) (+44) (0) 1372 222 000

E-Mail : SDS-DS@exxonmobil.com

Section 2. Hazards identification

Classification of the substance or mixture : AQUATIC TOXICITY (ACUTE) - Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H400 - Very toxic to aquatic life.

Precautionary statements

Prevention : P273 - Avoid release to the environment.

Response : P391 - Collect spillage.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Contains : alcohols c11-c14-iso-, c13-rich

Other hazards which do not result in classification : None known.

Nota : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : alcohols c11-c14-iso-, c13-rich

Ingredient name	% (w/w)	Identifiers	Type
alcohols c11-c14-iso-, c13-rich	100	CAS: 68526-86-3	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated skin with soap and water.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms/effects, 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 specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Incomplete combustion products, Oxides of carbon, Smoke, Fume

Special protective actions for fire-fighters : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Personal precautions, protective equipment and emergency procedures

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 spilt material. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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".

Environmental precautions : Avoid dispersal of spilt 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and material for containment and cleaning up

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 of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the 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 of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Confine the spill immediately with booms. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants. Warn other shipping. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 6. Accidental release measures

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Static Accumulator : This material is not a static accumulator.

Loading/Unloading Temperature : Ambient

Transport Temperature : Ambient

Transport Pressure : Ambient

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Storage Temperature : Ambient

Storage Pressure : Ambient

Suitable Containers/Packing : Tank Trucks, Tank Cars, Drums

Suitable Materials and Coatings : Stainless Steel, aluminium, polypropylene, Carbon Steel, PTFE, polyethylene

Unsuitable Materials and Coatings : butyl rubber, Natural Rubber, Vinyls

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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

Section 8. Exposure controls/personal protection

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. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material

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 : 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 : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type A)

Section 9. Physical and chemical properties and safety characteristics

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Clear]

Colour : Colourless

Odour : Mild

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : <-90°C (<-130°F) [ASTM D 5950]

Boiling point or initial boiling point and boiling range : 241 to 257°C (465.8 to 494.6°F) [ASTM D 1078]

Flash point : Closed cup: 120°C (248°F) [ASTM D 93]

Evaporation rate : <0.01 (butyl acetate = 1) [In-house method ,]

Flammability : Ignitable

Lower and upper explosion limit/flammability limit : Lower: 0.4% [In-house method ,]
Upper: 6% [In-house method ,]

Vapour pressure : 1.5 mm Hg [100 °C]

Relative vapour density : >1 [Air = 1] [In-house method ,]

Relative density : 0.846 [ASTM D4052 modified]

Section 9. Physical and chemical properties and safety characteristics

Density : 0.846 g/cm³ [20°C (68°F)] [ASTM D4052 modified]

Solubility in water : Negligible

Partition coefficient: n-octanol/water : 4.8 [In-house method ,]

Auto-ignition temperature : 235°C (455°F) [ASTM E 659]

Decomposition temperature : Not available.

Viscosity : 48 cSt [25 °C] [ASTM D7042]

Molecular weight : 200

Particle characteristics

Median particle size : Not applicable.

Pour point : <-50°C [ASTM D5950 modified]

Hygroscopic : No

Coefficient of Thermal Expansion : 0.0008 per Deg C

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : High energy sources of ignition. Excessive heat.

Incompatible materials : Strong oxidisers

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result
alcohols c11-c14-iso-, c13-rich	**Rabbit - Dermal - LD50** >2000 mg/kg **Rat - Oral - LD50** >2000 mg/kg **Rat - Inhalation - LC50 Vapour** >12.2 ppm_m [6 hours]

Conclusion/Summary

Inhalation : Minimally Toxic. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403

Dermal : Minimally Toxic. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402

Oral : Minimally Toxic. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 420

Irritation/Corrosion

Conclusion/Summary

Section 11. Toxicological information

Skin : Negligible irritation to skin at ambient temperatures. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404

Eyes : May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405

Respiratory : Negligible hazard at ambient/normal handling temperatures. No end point data for material. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.

Respiratory or skin sensitization

Conclusion/Summary

Skin : Not expected to be a skin sensitizer. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406

Respiratory : Not expected to be a respiratory sensitizer. No end point data for material.

Mutagenicity

Conclusion/Summary : Not expected to be a germ cell mutagen. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 476

Carcinogenicity

Conclusion/Summary : Not expected to cause cancer. No end point data for material.

Reproductive toxicity

Conclusion/Summary : Not expected to be a reproductive toxicant. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414

Specific target organ toxicity (single exposure)

Conclusion/Summary : Not expected to cause organ damage from a single exposure. No end point data for material.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Target organs
alcohols c11-c14-iso-, c13-rich	Not applicable.	-

Conclusion/Summary : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 407 410 422

Aspiration hazard

Conclusion/Summary : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

Other information

Product : Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects.

Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

Toxicity

Section 12. Ecological information

Product/ingredient name	Result
alcohols c11-c14-iso-, c13-rich	**Acute - LC50** Fish - *Oncorhynchus mykiss* 0.42 mg/l - data for the material [96 hours] **Acute - LC50** daphnia - *Daphnia magna* 0.71 mg/l - data for the material [48 hours] **Chronic - NOEC** Invertebrate - *Invertebrate* 0.058 mg/l - Model prediction [16 days] **Chronic - NOEC** Fish - *Fish* 0.047 mg/l - Model prediction [30 days]

Conclusion/Summary

Acute toxicity : Very toxic to aquatic life.

Chronic toxicity : Toxic to aquatic life with long lasting effects.

Persistence and degradability

Product/ingredient name	Result
alcohols c11-c14-iso-, c13-rich	Ready Biodegradability 61% [28 days]

Biodegradability : Material -- Expected to be readily biodegradable.

Hydrolysis : Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis : Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation : Material -- Expected to degrade rapidly in air

Bioaccumulative potential

Bioconcentration factor (BCF) : 39 10day(s)

Dietary Bioaccumulation (BMF) : 0.016 22day(s)

Conclusion/Summary : Material -- Potential to bioaccumulate is low.

Mobility in soil

Mobility : Material -- Expected to remain in water or migrate through soil.

Other ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

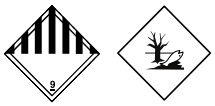
Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for

Section 13. Disposal considerations

recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Section 14. Transport information

	ADR	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (alcohols c11-c14-iso-, c13-rich)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (alcohols c11-c14-iso-, c13-rich)	Environmentally hazardous substance, liquid, n.o.s. (alcohols c11-c14-iso-, c13-rich)
Transport hazard class(es)	9	9	9
Label(s) / Mark(s)			
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.

Additional information

ADR : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Hazard identification number 90
Limited quantity 5 L
Special provisions 274, 335, 601, 375
Tunnel code (-)

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Emergency schedules F-A, S-F
Special provisions 274, 335, 969

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.
Quantity limitation Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.
Special provisions A97, A158, A197, A215

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 in bulk according to IMO instruments

Proper shipping name : NOXIOUS LIQUID, N.F.,(5) N.O.S., (EXXAL 13 ALCOHOL, contains alcohols (C13+))

Remarks : **Liquid bulk cargoes:**
Ship type: 2
Pollution category: Y

Section 15. Regulatory information

This material is considered hazardous according to The Regulations on Labelling and Hazard Communications for Hazardous Materials.

TCCSCA List of toxic chemicals

Not applicable.

TCCSCA List of concerned chemicals

Not applicable.

OSHA Article 29 : None of the components are listed.

OSHA Article 30 : None of the components are listed.

Regulation Governing Designation and Handling Permission of Controlled Chemicals : Not applicable

Inventory list

Australia inventory (AIIC) : This material is listed or exempted.

Canada inventory (DSL-NDSL) : This material is listed or exempted.

China inventory (IECSC) : This material is listed or exempted.

Japan inventory (CSCL) : Not determined.

Japan inventory (Industrial Safety and Health Act) : Not determined.

New Zealand Inventory of Chemicals (NZIoC) : This material is listed or exempted.

Philippines inventory (PICCS) : This material is listed or exempted.

Korea inventory (KECI) : This material is listed or exempted.

Taiwan Chemical Substances Inventory (TCSI) : This material is listed or exempted.

United States inventory (TSCA 8b) : This material is active or exempted.

Section 16. Other information

Classification	Justification
AQUATIC TOXICITY (ACUTE) - Category 1	On basis of test data

References : Not available.

Prepared by : ExxonMobil Biomedical Sciences Inc, Annadale, New Jersey, USA

Local Contact : Eric Lin (EMICT), Tel# 886-02-2734 6888

History

Date of issue/Date of revision : 13 July 2025

Date of previous issue : No previous edition

Version : 0.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
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 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

Indicates information that has changed from previously issued version.

THIS SDS COVERS THE FOLLOWING MATERIALS :

Section 16. Other information

Alcohols, C11-14-iso-, C13 rich; isotridecyl alcohol; alcohol oxo C 13; Alcohols, (C=11-14)-iso-, (C=13)-rich; Alcohols, C11-14-iso, C13-rich

Product code : P000001896

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