SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Spent Caustic

Version	Revision Date:	SDS Number:	Print Date: 4/01/2022
1.0	4/01/2022	VRAM00036	Date of last issue: 4/01/2022

SECTION 1. IDENTIFICATION

Product name : Spent Caustic

Product code : 002D4424

CAS-No. : 64742-40-1

Manufacturer or supplier's details

Manufacturer/Supplier : **Vertex Refining Alabama LLC**
400 Industrial Pkwy Ext. East
Saraland AL 36571
USA

SDS Request : 251-679-7180
Customer Service : 251-679-7180

Emergency telephone number

Spill Information : 800-424-9300
Health Information : 800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use :
Intermediate Refinery Stream.

Restrictions on use : This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin corrosion/irritation : Category 1

Corrosive to metals

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:
H290 May be corrosive to metals.

HEALTH HAZARDS:
H314 Causes severe skin burns and eye damage.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements :

Prevention:

P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P363 Wash contaminated clothing before reuse.
P330 Rinse mouth.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards which do not result in classification

Causes severe burns.
Inhalation of vapours or mists may cause irritation to the respiratory system.
The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (% w/w)
sodium hydroxide	sodium hydroxide (Solid)	1310-73-2	0.01 - 20
sodium methanethiolate	sodium methanethiolate	5188-07-8	0.01 - 5
disodium sulfide	disodium sulphide (Anhydrous, or with less than 30% water of crystallisation)	1313-82-2	0.01 - 5

SECTION 4. FIRST-AID MEASURES

If inhaled	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
In case of skin contact	:	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes. Transport to the nearest medical facility for additional treatment.
In case of eye contact	:	Immediately flush eyes with large amounts of water for at least 30 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
If swallowed	:	Do not induce vomiting. If victim is alert, rinse mouth and drink 1/2 to 1 glass of water to help dilute the material. Do not give liquids to a drowsy, convulsing, or unconscious person. Transport to nearest medical facility for additional treatment.
Most important symptoms and effects, both acute and delayed	:	Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.
Indication of any immediate medical attention and special treatment needed	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
Specific hazards during fire-fighting	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Unidentified organic and inorganic compounds. Carbon monoxide may be evolved if incomplete combustion occurs. Material will not burn unless preheated.
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	:	Clear fire area of all non-emergency personnel. Evacuate the area of all non-essential personnel. Keep adjacent containers cool by spraying with water.

Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Avoid contact with skin, eyes and clothing.
Environmental precautions	:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Use appropriate containment to avoid environmental contamination. Ventilate contaminated area thoroughly.
Methods and materials for containment and cleaning up	:	Contain run-off from residue flush and dispose of properly. Soak up residue with an absorbent such as clay, sand or other suitable material. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely
Additional advice	:	For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.

		Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Ensure that all local regulations regarding handling and storage facilities are followed.
Advice on safe handling	:	Use local exhaust extraction over processing area. Handle and open container with care in a well-ventilated area. Do not empty into drains. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.
Avoidance of contact	:	Strong oxidising agents. Strong acids. Strong bases. Organic materials
Product Transfer	:	Keep containers closed when not in use. Do not pressurize drum containers to empty.
Conditions for safe storage	:	Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
Further information on storage stability	:	Keep container tightly closed. Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Drums should be stacked to a maximum of 3 high.
Packaging material	:	Suitable material: Stainless steel, Nickel alloys., Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FKM), which have been specifically tested for compatibility with this product. Unsuitable material: Aluminium, Aluminium alloys., Zinc., Copper., Copper alloys., Compatibility should be checked with the manufacturer.
Container Advice	:	Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
Specific use(s)	:	Not applicable
		Ensure that all local regulations regarding handling and storage facilities are followed.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
sodium hydroxide	1310-73-2	C	2 mg/m3	ACGIH
sodium hydroxide		TWA	2 mg/m3	OSHA Z-1

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Adequate explosion-proof ventilation to control airborne concentrations.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
Eye washes and showers for emergency use.

General Information:
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control

measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Select a filter suitable for inorganic gases and vapours meeting EN14387.

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection
Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. When prolonged or frequent repeated contact occurs. Nitrile rubber gloves. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye protection : Wear goggles for use against liquids and gas, combined with

face shield with chin guard.

Skin and body protection	:	Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood, chemical resistant knee length boots and chemical resistant gloves. Otherwise use chemical resistant apron and gauntlets. Protective clothing approved to EU Standard EN14605.
Protective measures	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Thermal hazards	:	Not applicable
Hygiene measures	:	Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use.

Environmental exposure controls

General advice	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation. Information on accidental release measures are to be found in section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	colourless
Odour	:	odourless, Mercaptan
Odour Threshold	:	Data not available
pH	:	> 12
	:	Data not available
Flash point	:	> 93.3 °C / > 199.9 °F
Evaporation rate	:	Data not available
Upper explosion limit / upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable

Vapour pressure	:	Data not available
Relative vapour density	:	Data not available
Relative density	:	Data not available
Density	:	ca. 1,200 kg/m3
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	Data not available
		Data not available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, kinematic	:	Data not available
Explosive properties	:	Classification Code: Not classified
Conductivity	:	Electrical conductivity: > 10,000 pS/m, This material is not expected to be a static accumulator.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	No hazardous reaction is expected when handled and stored according to provisions
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	Extremes of temperature and direct sunlight. Product cannot ignite due to static electricity.
Incompatible materials	:	Strong oxidising agents. Strong acids. Strong bases. Organic materials
Hazardous decomposition products	:	Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degra-

dation.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing, and/or similar products, and/or components.

Information on likely routes of exposure
Skin and eye contact are the primary routes of exposure although exposure may occur through inhalation or following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg
Remarks: Expected to be of low toxicity:

Acute inhalation toxicity : Remarks: Expected to be of low toxicity:
LC50 >20 mg/l

Acute dermal toxicity : LD 50 (Rabbit): > 5,000 mg/kg
Remarks: Expected to be of low toxicity:

Skin corrosion/irritation

Product:
Remarks: Causes severe burns.

Serious eye damage/eye irritation

Product:
Remarks: Causes severe burns.

Respiratory or skin sensitisation

Product:
Remarks: Not expected to be a sensitiser.

Germ cell mutagenicity

Product:

: Remarks: No evidence of mutagenic activity.

Carcinogenicity

Product:
Remarks: Not carcinogenic in animal studies.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

: Remarks: Not expected to be a reproductive toxicant. Not expected to impair fertility.

STOT - single exposure

Product:
Remarks: Inhalation of vapours or mists may cause irritation to the respiratory system.

STOT - repeated exposure

Product:
Remarks: Not expected to be a hazard.

Aspiration toxicity

Product:
Not considered an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing.

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity)	: Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to daphnia and other aquatic invertebrates (Acute toxicity)	: Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to algae (Acute tox-	:

icity)		Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
Toxicity to fish (Chronic toxicity)	:	Remarks: Data not available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	Remarks: Data not available
Toxicity to microorganisms (Acute toxicity)	:	Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l

Persistence and degradability

Product:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Does not have the potential to bioaccumulate significantly.

Mobility in soil

Product:

Mobility	:	Remarks: If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

Other adverse effects

Product:

Additional ecological information	:	Data not available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Recover or recycle if possible. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Remove all packaging for recovery or waste disposal. Do not dispose into the environment, in drains or in water courses

Waste product should not be allowed to contaminate soil or water.

Contaminated packaging : Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

Local legislation
Remarks : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

UN/ID/NA number	:	UN 3266
Proper shipping name	:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide, Sodium Sulfide)
Class	:	8
Packing group	:	II
Labels	:	8
ERG Code	:	154
Marine pollutant	:	no

International Regulations

IATA-DGR

UN/ID No.	:	UN 3266
Proper shipping name	:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide, Sodium Sulfide)
Class	:	8
Packing group	:	II
Labels	:	8

IMDG-Code

UN number	:	UN 3266
Proper shipping name	:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide, Sodium Sulfide)
Class	:	8
Packing group	:	II
Labels	:	8
Marine pollutant	:	no

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

Special precautions : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
sodium hydroxide	1310-73-2	1000	5000

*: The components with RQs are given for information., Vertex HSSE classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reporta-ble under CERCLA.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Corrosive to metals
Skin corrosion or irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Water Act

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

sodium hydroxide 1310-73-2 20 %

US State Regulations

Pennsylvania Right To Know

sodium hydroxide 1310-73-2

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

California List of Hazardous Substances

sodium hydroxide 1310-73-2

Other regulations:

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reactivity) 3, 1, 0

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / C	:	Ceiling limit
OSHA Z-1 / TWA	:	8-hour time weighted average
Abbreviations and Acronyms	:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut fur Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory

IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level
OE_HPV = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

A vertical bar (|) in the left margin indicates an amendment from the previous version.
Due to a change in detail in Section 15, this document has been released as a significant change.

Sources of key data used to compile the Safety Data Sheet	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Vertex HSSE, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
Revision Date	:	4/01/2022

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / EN