SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

nitric acid 53% - 60%

Version	Revision Date:	SDS Number:	Date of last issue: 27.12.2024
1.1	27.12.2024	M0228	Date of first issue: 27.12.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	nitric acid 53% - 60%
REACH Registration Number	:	01-2119487297-23-0042
Unique Formula Identifier (UFI)	:	WSDM-P0JT-K00W-6XPU

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

Use of the Substance/Mixture	:	Fertiliser, Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Use as laboratory reagent, Roller application or brushing, Treatment of articles by dipping and pouring, Hand-mixing with intimate contact and only PPE available, Industrial spraying

1.3 Details of the supplier of the safety data sheet

Company	:	COMPO EXPERT GmbH Krögerweg 10 D-48155 Münster
Telephone	:	+49 (0) 251 29 79 81 – 000
Telefax	:	+49 (0) 251 29 79 81 - 111
E-mail address of person responsible for the SDS	:	info@compo-expert.com

1.4 Emergency telephone number

GBK GmbH - Global Regulatory Compliance - 24h
Telephone:+49 (0) 6132 - 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1	H290: May be corrosive to metals.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Skin corrosion, Sub-category 1A	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.

Supplemental Hazard Statements : EUH071 Corrosive to the respiratory tract.

Precautionary statements :

Prevention:

P261	Avoid breathing mist or vapours.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Hazardous components which must be listed on the label:

nitric acid

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
nitric acid	7697-37-2 231-714-2 007-030-00-3 01-2119487297-23-0042	Ox. Liq. 3; H272 Acute Tox. 3; H331 Skin Corr. 1A; H314 Eye Dam. 1; H318 EUH071 specific concentration limit Ox. Liq. 3; H272 >= 65 % Skin Corr. 1A; H314 >= 20 % Skin Corr. 1B; H314 5 - < 20 % Eye Dam. 1; H318 >= 3 % Eye Irrit. 2; H319 1 - < 3 % Skin Irrit. 2; H315 1 - < 5 % Ox. Liq. 3; H272 70 - < 99 % Ox. Liq. 2; H272	>= 50 - < 65

		>= 99 % Eye Dam. 1; H318 >= 3 % Eye Irrit. 2; H319 1 - < 3 % Skin Irrit. 2; H315 1 - < 5 %	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Get medical attention immediately if symptoms occur.

Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with plenty of water.
Take off all contaminated clothing immediately.
If symptoms persist, call a physician.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
Remove contact lenses.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Keep eye wide open while rinsing.
Protect unharmed eye.
Continue rinsing eyes during transport to hospital.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	Causes serious eye damage. Toxic if inhaled. Causes severe burns. Corrosive to the respiratory tract.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray jet Dry chemical Foam Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not breathe fumes.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid formation of aerosol. Do not breathe vapours or spray mist. For personal protection see section 8.

For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
Wear personal protective equipment.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Wash hands before eating, drinking, or smoking. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Keep container tightly closed in a dry and well-ventilated place. Keep only in the original container.

Advice on common storage : Keep away from food, drink and animal feedingstuffs.

Storage class (TRGS 510) : 6.1D

7.3 Specific end use(s)

Specific use(s) : Not relevant

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
nitric acid	7697-37-2	STEL	1 ppm 2,6 mg/m3	2006/15/EC
	Further information: Indicative			
		STEL	1 ppm 2,6 mg/m3	DE TRGS 900

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection

- Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.
- Break through time : > 480 min
- Glove thickness : > 0,3 mm
- Directive : Equipment should conform to EN 374

- Remarks : The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use.

Skin and body protection : Long sleeved clothing

Respiratory protection : Do not breathe vapours or spray mist.
In the case of dust or aerosol formation use respirator with an approved filter.
Equipment should conform to EN 14387

- Filter type : Acidic gas/vapour type (E)

Protective measures : Handle in accordance with good industrial hygiene and safety practice.
Wash contaminated clothing before re-use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour	:	colourless
Odour	:	none
Melting point/range	:	ca. -23 °C
Boiling point/boiling range	:	ca. 120,4 °C
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	not determined
Auto-ignition temperature	:	does not ignite
pH	:	< 1
Viscosity		
Viscosity, dynamic	:	2 mPa.s (20 °C)
Viscosity, kinematic	:	1,46 mm2/s
Solubility(ies)		
Water solubility	:	completely miscible
Partition coefficient: n-octanol/water	:	log Pow: -2,3 (25 °C) Method: OECD Test Guideline 107
Vapour pressure	:	8,5 hPa (20 °C)
		49 hPa (50 °C)

Density	:	1,37 g/cm³ (20 °C)

9.2 Other information

Explosives	:	Not explosive
Flammability (liquids)	:	Will not burn
Self-ignition	:	not auto-flammable
Metal corrosion rate	:	Corrosive to metals

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid	:	Strong sunlight for prolonged periods.

10.5 Incompatible materials

Materials to avoid	:	Metals Alkali metals Water Oxidizing agents Combustible material

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Toxic if inhaled.

Product:

Acute inhalation toxicity	:	Acute toxicity estimate: 5 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

Components:

nitric acid:

Acute oral toxicity	:	Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat): > 2,65 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 Assessment: The component/mixture is toxic after short term inhalation.
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes severe burns.

Components:

nitric acid:

Assessment	:	Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

nitric acid:

Assessment	:	Risk of serious damage to eyes.

Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Components:

nitric acid:

Assessment	:	Does not cause skin sensitisation.
Assessment	:	Does not cause respiratory sensitisation.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

nitric acid:

Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Based on available data, the classification criteria are not met.

Components:

nitric acid:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

nitric acid:

Reproductive toxicity - Assessment	:	No toxicity to reproduction
		No effects on or via lactation

STOT - single exposure

Corrosive to the respiratory tract.

Components:

nitric acid:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Components:

nitric acid:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration toxicity

Based on available data, the classification criteria are not met.

Components:

nitric acid:

No aspiration toxicity classification

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not flush into surface water or sanitary sewer system.
Dispose of as hazardous waste in compliance with local and national regulations.
Waste codes should be assigned by the user based on the application for which the product was used.

Contaminated packaging : Empty remaining contents.
Empty containers retain residue and can be dangerous.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 2031

ADR : UN 2031

RID : UN 2031

IMDG : UN 2031

IATA (Cargo) : UN 2031

IATA_P (Passenger) : UN 2031
Not permitted for transport

14.2 UN proper shipping name

ADN : NITRIC ACID

ADR : NITRIC ACID

RID : NITRIC ACID

IMDG : NITRIC ACID

IATA (Cargo) : Nitric acid

IATA_P (Passenger) : Nitric acid
Not permitted for transport

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	8	
ADR	:	8	
RID	:	8	
IMDG	:	8	
IATA (Cargo)	:	8	
IATA_P (Passenger)	:	Not permitted for transport	

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	C1
Hazard Identification Number	:	80
Labels	:	8

ADR

Packing group	:	II
Classification Code	:	C1
Hazard Identification Number	:	80
Labels	:	8
Tunnel restriction code	:	(E)

RID

Packing group	:	II
Classification Code	:	C1
Hazard Identification Number	:	80
Labels	:	8

IMDG

Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Remarks	:	Acids

IATA (Cargo)

Packing instruction (cargo aircraft)	:	855
Packing group	:	II
Labels	:	Corrosives

IATA_P (Passenger) : Not permitted for transport

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Regulatory basis : IMSBC Code
Remarks : Product is not allowed to be transported in bulk.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

Acquisition, introduction, possession or use of this product by the general public is restricted by Regulation (EU) 2019/1148. All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.	nitric acid (ANNEX I)

Seveso III: Directive 2012/18/EU of the Euro-	H2	ACUTE TOXIC

pean Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Water hazard class (Germany)	:	WGK 1 slightly hazardous to water Classification according to AwSV, Annex 1 (5.2)

Other regulations:

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

Not relevant

SECTION 16: Other information

Full text of H-Statements

H272	:	May intensify fire; oxidizer.
H314	:	Causes severe skin burns and eye damage.
H318	:	Causes serious eye damage.
H331	:	Toxic if inhaled.
EUH071	:	Corrosive to the respiratory tract.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Dam.	:	Serious eye damage
Ox. Liq.	:	Oxidizing liquids
Skin Corr.	:	Skin corrosion
2006/15/EC	:	Europe. Indicative occupational exposure limit values
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
2006/15/EC / STEL	:	Short term exposure limit
DE TRGS 900 / STEL	:	Short term limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration as-

sociated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Met. Corr. 1	H290	Based on product data or assessment
Acute Tox. 3	H331	Calculation method
Skin Corr. 1A	H314	Calculation method
Eye Dam. 1	H318	Calculation method

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.

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