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

1.1. Product identifier

Chemical description : Nitric acid, solution (20<65%).
Type of product : Pure product in solution .
Reach registration number : 01-2119487297-23

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

* Identified use(s) : See table on the front page of the annex.
* Use(s) advised against : This product is not recommended for any industrial, professional or consumer use other than identified in table on the front page of the annex.
Not for use in ornamental articles, in tricks and jokes and in games (in accordance with Annex XVII to Regulation (EC) No 1907/2006) (3. Liquid substances or mixtures, which are regarded as dangerous according to the definitions in Council Directive 67/548/EEC and Directive 1999/45/EC).

1.3. Details of the supplier of the safety data sheet

Company identification : BRENNTAG N.V. - Nijverheidslaan 38 - BE-8540 DEERLIJK
TEL: +32(0)56/77.69.44 - FAX: +32(0)56/77.57.11
E-MAIL: info@brenntag.be - Website: www.brenntag.be

BRENNTAG Nederland B.V. - Donker Duyvisweg 44 - NL-3316 BM DORDRECHT
TEL: +31(0)78/65.44.944 - FAX: +31(0)78/65.44.919
E-MAIL: info@brenntag.nl - Website: www.brenntag.nl

1.4. Emergency telephone number

Emergency phone number : Belgium : Antipoison Center - Brussels
TEL: +32(0)70/245.245

The Netherlands : National Poisoning Information Center - Bilthoven
TEL: +31(0)30/274.88.88 (Only for the purpose of informing medical personnel in cases of acute intoxications)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

* Corrosive to metals - Category 1 - Warning (Met. Corr. 1; H290)
Skin corrosion - Category 1A - Danger (Skin Corr. 1A; H314)
Serious eye damage - Category 1 - Danger (Eye Dam. 1; H318)

2.2. Label elements

Label in accordance with Regulation (EC) No 1272/2008

* • Dangerous ingredient(s) : Nitric acid ...%
• Hazard pictogram(s)

• Signal word : Danger
• Hazard statements : H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. EUH071 - Corrosive to respiratory tract.
• Precautionary statements
- Prevention : P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P280 - Wear protective gloves/protective clothing/eye protection/face protection.

SECTION 2. Hazards identification (continued)

- Response : P301+P330+P331 - IF SWALLOWED : Rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 - IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 -Immediately call a POISON CENTER/ doctor/… P390 - Absorb spillage to prevent material damage.

2.3. Other hazards

* Physical/chemical hazards : The substance decomposes by heating or burning in formation of toxic vapours.

* Hazards for the health : A health dangerous concentration in the air will very quickly be reached by evaporation of this substance at app. 20°C.
Inhalation may cause pneumonia and/or pulmonary oedema. Symptoms of lungoedema mostly reveal after a few hours, intensified by physical effort.

Hazards for the environment : Product causes a strong drop of the pH-value of water and soil.
This product is no substance or contains no PBT or vPvB (in accordance with Annex XIII).

* Hazards for the safety : Vapor mixes readily with air. Risk of explosion by many reactions.

SECTION 3. Composition/information on ingredients

3.1. Substances

	Name component(s)		Weight %	CAS nr	EINECS nr	Index nr	Reach nr	CLASSIFICATION
*	Nitric acid ...%	:	20 < 65 %	7697-37-2	231-714-2	007-004-00-1	01-2119487297-23	Ox. Liq. 2; H272 Met. Corr. 1; H290 Skin Corr. 1A; H314 STOT SE; EUH071

*

The full text of the (EU)H-statements is in section 16.
Note: SCL applicable
Nota B of Annex 1A (67/548/EEC) applies to the product or one or more of its components.

SECTION 4. First aid measures

4.1. Description of first aid measures

General : CALL A PHYSICIAN IN ALL CIRCUMSTANCES.
Never give anything by mouth to an unconscious person.

First Aid Measures

* - Inhalation : Remove victim into fresh air.
Allow the affected person to rest in semi-sitting position.
If not breathing, give artificial respiration.
Immediately call a POISON CENTER or doctor/physician.

* - Skin Contact : Remove contaminated clothing while rinsing.
Rinse skin immediately with plenty of water. (shower if necessary).
Immediately call a POISON CENTER or doctor/physician.

* - Eye Contact : Rinse immediately thoroughly and long (at least 15 min.) with plenty of water.
Remove contact lenses after a few minutes rinse.
Immediately call a POISON CENTER or doctor/physician.
Keep rinsing or dripping the eye during transport.

* - Ingestion : DO NOT INDUCE VOMITING. Rinse mouth with water.
Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

See section 11.

SECTION 4. First aid measures (continued)

4.3. Indication of any immediate medical attention and special treatment needed

For specialist advice doctors should contact the NVCI or the Belgian Poison center.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Extinguishing Media

* - Suitable : Carbon dioxide (CO_2) .

* - Insuitable : Extinguishing powder , Heavy water stream , Sand , Foam.

5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards : Fire may liberate toxic Nitrogen oxides (NOx).

5.3. Advice for firefighters

* Special Protective Equipment for Firefighters : Use self-contained breathing apparatus and wear protective clothes when in close proximity to fire.

Special Procedures : Apply water spray or fog to cool nearby equipment. Avoid fire-fighting water to enter environment.
Neutralize extinguishing water with a basic product.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions : Eliminate every possible source of ignition (open fire, sparks, smoking, ...).
Evacuate all personnel immediately and ventilate area.
Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)

6.2. Environmental precautions

Environmental Precautions : Shut off leaks if without risks.
Dike in the spilled product as much as possible with inert material.
Prevent entry of product in public water, sewers or soil.
Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

* Methods for Cleaning Up : Collect the spillage in closable, corrosion resistant, suitable disposal containers.
Clean up any spills as soon as possible, using an inert absorbent material.
Neutralise spilled liquid with a base.
Residue is to be washed down with plenty of water.

6.4. Reference to other sections

For personal protection, see section 8.
For the removal of the waste product, see section 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

* Handling : AVOID EVERY CONTACT !!
AVOID FOG TRANSFORMATION !
Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)
Avoid heating, splashing and formation of vapour when emptying, pouring, diluting or dissolving the product.
When diluting, always pour the acid solution upon the water, never the other way

SECTION 7. Handling and storage (continued)

round.
When using, do not eat, drink or smoke.
Wash hands before and after working with the product.
Emergency eye wash fountains and showers should be available in the immediate vicinity of any potential exposure.

7.2. Conditions for safe storage, including any incompatibilities

	Storage	: Keep only in the original, safely locked container in a well ventilated, cool and dark place. All dangerous products should be placed on a drip tray or should be barreled. Keep away from : Combustibles , Reducing agents , Bases .
*	Protection against Fire and Explosion	: Remove all sources of ignition (open fire, sparks, smoking, ...).
*	Packaging Material	: Stainless steel , Glass , PVC , Polyethylene .
*	Insuitable Packaging Material	: Aluminium , Carbon steel , Several metals , Some synthetics (Polypropylene), Rubber , Coating agent .

7.3. Specific end use(s)

For identified uses, see subsection 1.2 and/or exposure scenarios.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

*	Occupational Exposure Limits	: Nitric acid ...% : Short time value (BE) : 1 ppm (2,6 mg/m³) (2014) Nitric acid ...% : Limit value (TWA 15 min) (NL) : 0,5 ppm (1,3 mg/m³) (2007)
	Biological limit values	: They will be included when available.
	DNELs	: • Nitric acid ...% : Worker, acute - local effects, inhalation : 2,6 mg/m³ • Nitric acid ...% : Worker, long-term - local effects, inhalation : 1,3 mg/m³ • Nitric acid ...% : Consumer, acute - local effects, inhalation : 1,3 mg/m³ • Nitric acid ...% : Consumer, long-term - local effects, inhalation : 0,65 mg/m³
	PNECs	: • Nitric acid ...% : Not applicable

8.2. Exposure controls

*	Engineering Measures	: Ventilation (Through the floor), Local exhaust .
	Personal Protection Equipment	
	- Respiratory protection	: Respiratory protection equipment (Combination filter type BE/P2).
	- Skin protection	: Corrosion-proof protective clothing.
*	- Hand protection	: Suitable material for safety gloves (EN 374): The suitability of the gloves and the breakthrough time for a specific workplace should be discussed with the producers of the protective gloves. - material : Butyl rubber - thickness : 0,5 mm - breakthrough time : > 480'
	- Eye/Face protection	: Closed safety glasses or face shield.
	Environmental exposure controls	: See sections 6, 7, 12 and 13.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

*	See technical data sheet for detailed information.	
	Physical State (20°C)	: Liquid .
	Form/Colour	: Colourless to yellow .

SECTION 9. Physical and chemical properties (continued)

	Odour	: Pungent odour .
	Odour threshold	: 0,29 ppm
*	pH value	: < 0,5
*	Melting/Freezing point	: -18,4 to -32 °C
*	Boiling Point/Range (1013 hPa)	: 104 < 122 °C
	Flash point	: Not applicable.
	Evaporation rate	: No data available.
	Explosion limits in air	: Not applicable.
*	Vapour pressure (20°C)	: 7,31 - 9,5 kPa
*	Vapour pressure (50°C)	: 5,6 kPa (53% Nitric acid, solution)
	Relative vapour density (air=1)	: 2,2
	Relative density of saturated vapour/air mixture (air=1)	: 1,01
*	Relative density (water=1)	: 1,4
	Density (20°C)	: 1,1 - 1,4 kg/l
*	Solubility in water (20°C)	: 10 g/ 100 ml
	Log P Octanol/Water (20°C)	: -2,3
	Auto-ignition temperature	: No data available.
	Minimum ignition energy	: No data available.
	Decomposition temperature	: No data available.
	Viscosity	: No data available.
*	Viscosity (20°C)	: 2 mPa.s (Dynamic)
*	Explosive properties	: No chemical groups associated with explosive properties
*	Oxidizing properties	: Oxidizing. (>=65 % Nitric acid, solution)

SECTION 10. Stability and reactivity

10.1. Reactivity

*	Reactivity	: The product is a strong oxidizer and reacts violently with combustibles and reducing agents. Reacts violently with lyes.

10.2. Chemical stability

	Stability	: Stable at normal circumstances

10.3. Possibility of hazardous reactions

*	Hazardous reactions	: Incombustible product, but stimulates fire of other materials. Contact with metallic substances may release inflammable hydrogen gas. May cause fire and explosion!

10.4. Conditions to avoid

	Conditions to avoid	: High temperatures .

10.5. Incompatible materials

*	Materials to avoid	: Combustibles , Reducing agents , Bases , Several metals , Some synthetics , Rubber , Coating agent

10.6. Hazardous decomposition products

*	Hazardous Decomposition Products	: Nitrogen oxides .

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

* - Inhalation : Inhalation may cause pneumonia and/or pulmonary oedema.
In serious cases: may cause death.
Symptoms include: Sore throat , Cough , Shortness of breath , Difficulty in breathing .
• Nitric acid ...% : LC50 (Rat, inhalation, 4 h) : 1,56 mg/l (OECD Guideline 403)

* - Skin contact : Symptoms include: Redness , Pain , Severe burns .
• Nitric acid ...% : LD50 (Rabbit, dermal) : No data available.

* - Ingestion : Symptoms include: Stomach complaints , Abdominal pain , Vomiting , Diarrhea , Weakness , Burning feeling , Reduced blood pressure , Unconsciousness ,
• Nitric acid ...% : LD50 (Rat, oral) : No data available.

* Skin corrosion/irritation : Causes severe skin burns and eye damage.

* Serious eye damage/irritation : Causes serious eye damage.

* Aspiration hazard : Symptoms of lungoedema mostly reveal after a few hours, intensified by physical effort. Inhalation of high concentrations can cause permanent lung damage.

Respiratory or skin sensitisation : Not sensitive .

* Carcinogenicity : Not listed as carcinogenic .

* Mutagenicity : Not listed as mutagenic .

* Reproductive toxicity : Not listed for reproductive toxicity .

* Specific target organ toxicity - single exposure : To human : Corrosive to respiratory system.

* Specific target organ toxicity - repeated exposure : To human : Listed not for organ toxicity .
For animals : No effects known.

SECTION 12. Ecological information

12.1. Toxicity

* Ecotoxicity : • Nitric acid ...% : LC50 (Fish, 96 h) : 4400-6000 mg NO3-/l (Salmo gairdneri)
• Nitric acid ...% : EC50 (Algae, 72 h) : No data available.
• Nitric acid ...% : EC50 (Daphnia magna, 24 h) : 8609 mg/l (OECD Guideline 202)

12.2. Persistence and degradability

Persistence and degradability : • Nitric acid ...% : Persistence and degradability : Inorganic .

12.3. Bioaccumulative potential

Bioaccumulation : • Nitric acid ...% : Bioaccumulation : Bioaccumulation not expected .

12.4. Mobility in soil

Mobility : • Nitric acid ...% : Mobility : No absorption expected to the ground .

12.5. Results of PBT and vPvB assessment

Evaluation : • Nitric acid ...% : PBT/vPvB : No

12.6. Other adverse effects

Photochemical ozone creation potential : No data available.

Ozone depletion potential : No data available.

Endocrine disrupting potential : No data available.

Global warming potential : No data available.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Waste from residues/Unused products : The product has to be destroyed according to national or local legislation, by a company specialised in handling hazardous waste products.

European list of waste products : XXXXXX - European waste product code. This code is assigned on the basis of the most current applications and can not be representative for pollutions which are arisen at the effective use of the product. The producer of the waste has to evaluate its process himself and has to grant the appropriate waste coding. See Decision 2001/118/EC.

Removal contaminated packaging : Packing is to be used exclusively for the packing of this product.
After use, empty and close the packing very carefully.
In case of returned packing, the empty packing can be offered back to the supplier.

SECTION 14. Transport information

14.1. UN number

UN Number : 2031

14.2. UN proper shipping name

ADR/RID Name : UN 2031 Nitric acid, 8, II, (E)

ADN Name : UN 2031 Nitric acid , 8, II

IMDG Name : UN 2031 Nitric acid , 8, II

* IATA Name : UN 2031 Nitric acid , 8, II

14.3. Transport hazard classe(s)

Class : 8

14.4. Packing group

Packaging Group : II

14.5. Environmental hazards

Environmentally hazard : No

Marine pollutant : No

14.6. Special precautions for user

Danger number : 80

Hazard Label(s) : 8

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

* Type ship : 2

* Pollution category : Y

SECTION 15. Regulatory information

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

Inventories : Australian inventory (AICS): Listed in inventory.
Canadian inventory (DSL): Listed in inventory.
European inventory (EINECS): Listed in inventory.
Japanese inventory (ENCS): Listed in inventory.
Inventory of the United States (TSCA): Listed in inventory.

NFPA n° : 4-0-0-OXY

* Relevant EU Rule(s) : Directive 92/85/EEC of the Council of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding
Directive 98/24/EC of the Council of 7 April 1998 on the protection of the health and

SECTION 15. Regulatory information (continued)

safety of workers from the risks related to chemical agents at work
Decision 2001/118/EC of the Commission of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (Reach)
Regulation (EU) No 98/2013 of the European parliament and of the council of 15 January 2013 on the marketing and use of explosives precursors.

* The restrictions in Annex XVII to Regulation (EC) No 1907/2006 must be observed.

National regulations

* - Germany : WGK : 1

* - Netherlands : Water damaging : 9
Decontamination exertion : B

15.2. Chemical Safety Assessment

* A chemical safety assessment has been carried out for the material.

SECTION 16. Other information

* This safety data sheet has been drawn up in accordance with Regulation (EU) No 453/2010.
This safety data sheet is exclusively made for industrial/professional use.

* Has changed compared to previous revision.

* Changes : General revision .

* Sources of used key data : The information contained herein is based on the present state of our knowledge (Producer(s) , Chemical cards , ...)
See also on the webaddress:
http://apps.echa.europa.eu/registered/registered-sub.aspx#search

* (EU)H-statement(s) : H272 - May intensify fire; oxidizer.
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
EUH071 - Corrosive to respiratory tract.

* Classification procedure : Met. Corr. 1; H290 - Based on test data (producer of component)
Skin Corr. 1A; H314 - Additivity method
Eye Dam. 1; H318 - Additivity method

* List of abbrevations and acronyms : ADN (Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation interieur) : European agreement concerning the international carriage of dangerous goods by inland waterways
ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) : European agreement concerning the international carriage of dangerous goods by road
DNEL (Derived No Effect Level) : an estimated safe exposure level
EC50 : median Effective Concentration
EmS (Emergency Schedule) : the first code refers to the relevant fire schedule and the second code refers to the relevant spillage schedule
Eye Dam. 1 : Serious eye damage - Category 1
IATA (International Air Transport Association) : provisions concerning the international carriage of dangerous goods by air
IMDG (International Maritime Dangerous Goods code)
LC50 : median Lethal Concentration
LD50 : median Lethal Dose

SECTION 16. Other information (continued)

Met. Corr. 1 : Corrosive to metals - Category 1
NFPA (National Fire Protection Association) or fire diamant
NOx : Nitrogen oxides
NVCI : National Poisoning Information Center
OECD : Organisation for Economic Cooperation and Development
Ox. Liq. 2 : Oxidizing liquids - Category 2
PVC : Polyvinyl chloride
PBT : persistent, bioaccumulative and toxic
PNEC (Predicted No Effect Concentration) : concentration below which exposure to a substance is not expected to cause adverse effects
REACH : Registration, Evaluation, Authorisation and restriction of Chemicals
RID (Règlement concernant le transport International ferroviaire des marchandises Dangereuses) : Regulation concerning the International carriage of Dangerous goods by rail
SCL (Specific Concentration Limits)
Skin Corr. 1A : Skin corrosion - Category 1A
STOT SE : Specific Target Organ Toxicity - Single exposure
TWA (Time-Weighted Average) : the average exposure over a specified period
WGK (Wassergefahrdungsklasse) : a German classification of substances that indicate the environmental hazard for surface water
vPvB : very persistent and very bioaccumulative

This information is to our knowledge correct and complete on the date of issue of this safety data sheet. The information only concerns the product and does not give any guarantee for the quality and the completeness of the properties of the product, or in case of mixing or using in any other process. It remains the responsibility of the user to assure himself that the information is suitable and complete concerning the special use he makes of the product.
BRENNTAG denies all responsibility for loss or damage resulting from the use of these data.

End of document