

Name: Co2 Simulation

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

1.1 Product identifier

Name: Co2 Simulation
Code number: 14236
Type of Product: Smoke Fluid
Reach registratienummer : -

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

Identified use(s) : Chemical industry , Cosmetics, Pharma and Food.
Use(s) advised against : At this time we do not yet have information on uses advised against. They will be included when available.

1.3. Details of the supplier of the safety data sheet

AVM Belgium BVBA
Schaapschuur 1-14
1790 Affligem
Belgium
Tel : +32 (0)53 43.83.43

e-mail: info@avm-sfx.com

1.4. Emergency telephone number

+32 53438343 (16 h/d, 7 d/wk)
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)

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC
Not classified.

Classification according to Regulation (EC) No 1272/2008
Not classified.

2.2. Label elements

Label in accordance with Regulation (EC) No 1272/2008
According to the applicable legislation, this product has not to be labelled.

2.3. Other hazards

Physical/chemical hazards : The substance decomposes by heating above the decomposition temperature.
(> 200 °C)

Hazards for the health : No significant danger.

Hazards for the environment : No significant danger. This product is no substance or contains no PBT or vPvB (in accordance with Annex XIII).

Hazards for the safety : No significant danger.

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3. Composition/information on ingredients

3.1. Substances

Naam component(s)	Weight%	CASnr	EINECS nr	Index nr	Reach nr	Classification
1,2-Propane diol :	20-35%	57-55-6	200-338-0	-----	01-2119456809-23	No classification (DSD/DPD)
						No classification (GHS)
Demineralized water	65-80%	7732-18-5	321-791-2	-----	Exempted	No classification (DSD/DPD)
						No classification (GHS)

The full text of the R-phrases and (EU)H-statements is in section 16.

4. First aid measures

4.1. Description of first aid measures

General: In case of doubt or persistent symptoms, call a physician.
 Never give anything by mouth to an unconscious person.

First Aid Measures

- Inhalation : Remove victim into fresh air. Allow the affected person to rest.
- Skin Contact : Remove contaminated clothing.
 Rinse skin immediately with mild soap and plenty of water. (shower if necessary).
- Eye Contact : Rinse immediately thoroughly and long (at least 15 min.) with plenty of water.
 Remove contact lenses. Afterwards consult eye doctor.
- Ingestion : Rinse mouth with water. Consult a doctor.

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

See section 11.

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

For specialist advice doctors should contact the NVCI Poison center.

5. Firefighting measures

5.1. Extinguishing media

Extinguishing Media

- Suitable : Extinguishing powder , Alcohol resistant foam , Water spray , Carbon dioxide .
- Insuitable : Heavy water stream .

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5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards : Fire may liberate carbon oxides (CO) and smoke.

5.3. Advice for firefighters

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

Special Procedures : Apply water spray or fog to cool nearby equipment. Avoid fire-fighting water to enter environment

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 contact with skin and eyes.
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 product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for Cleaning Up : Collect the spillage in closable, suitable disposal containers.
Clean up any spills as soon as possible.
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.

7. Handling and storage

7.1. Precautions for safe handling

Handling : Avoid contact with skin and eyes.
Wear recommended personal protective equipment. (See section 8)
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 cool, well ventilated and dry place.
All dangerous products should be placed on a drip tray or should be barreled.
Keep away from : Oxidizing agents .
Protection against Fire and Explosion : Remove all sources of ignition (open fire, sparks, smoking, ...).

7.3. Specific end use(s)

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

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8. Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits :

Not established

Biological limit values :

• 1,2-Propane diol : Biological limit values : Not established.

DNELs :

• 1,2-Propane diol : Worker, long-term - local effects, inhalation : 10 mg/m³• 1,2-Propane diol : Worker, long-term - systemic effects, inhalation : 168 mg/m³• 1,2-Propane diol : Consumer, long-term - local effects, inhalation : 10 mg/m³• 1,2-Propane diol : Consumer, long-term - systemic effects, inhalation : 50 mg/m³

PNECs :

• 1,2-Propane diol : Fresh water : 260 mg/l

• 1,2-Propane diol : Marine water : 26 mg/l

• 1,2-Propane diol : Fresh water sediment : 572 mg/kg

• 1,2-Propane diol : Marine water sediment : 57,2 mg/kg

• 1,2-Propane diol : Soil : 50 mg/kg

• 1,2-Propane diol : Intermittent release : 183 mg/l

• 1,2-Propane diol : Sewage treatment plant : 20000 mg/l

• 1,2-Propane diol : Oral : 1133 mg/kg

8.2. Exposure controls

Engineering Measures :

Ventilation , Local exhaust .

Personal Protection Equipment

- Skin protection :

Suitable protective clothing .

- Hand protection :

Suitable material for safety gloves (EN 374):

Nitril rubber : penetration time > 480' - thickness 0,11 mm

- Eye/Face protection :

Safety glasses.

Environmental exposure controls :

See sections 6, 7, 12 en 13.

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) :

Viscous liquid .

Form/Colour :

Clear , Colourless .

Odour :

Odourless .

Odour threshold :

Not applicable.

pH value :

6-8

Melting/Freezing point :

10 °C

Boiling Point/Range (1013 hPa) :

290 °C

Flash point (CC) :

> 160 °C

Fire hazard :

P4

Evaporation rate :

Not established.

Explosion limits in air :

2,7 - 19 vol. %

Vapour pressure (20°C) :

< 0,001 kPa

Relative vapour density (air=1) :

No data available.

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Relative density of saturated vapour/air : No data available.
 mixture (air=1)

Density (20°C) : app. 1,04 g/cm³
 Solubility in water : 100 g/100 ml
 Soluble in : Alcohol .

Log P Octanol/Water at 25°C : -1,76
 Auto-ignition temperature : 370 °C
 Minimum ignition energy : No data available.

Decomposition temperature : > 200 °C
 Viscosity (20°C) : 1412 mPa.s (Dynamic)
 Explosive properties : No chemical groups associated with explosive properties .
 Oxidizing properties : No chemical groups associated with oxidizing properties .

9.2. Other information

Surface tension (20°C) : 63,4 mN/m

10. Stability and reactivity

10.1. Reactivity

Reactivity : May react with oxidizing agents.

10.2. Chemical stability

Stability : Stable at normal circumstances .

10.3. Possibility of hazardous reactions

Hazardous reactions : The substance decomposes by heating above the decomposition temperature.
 At elevated temperatures :
 > 200 °C ==> Polymerisation (Exothermic reaction)
 > 250 °C ==> Creation of: Acroleine .

10.4. Conditions to avoid

Conditions to avoid : High temperatures .

10.5. Incompatible materials

Materials to avoid : Oxidizing agents .

10.6. Hazardous decomposition products

Hazardous Decomposition Products : Acroleine , Carbon oxides .

11.Toxicological information

11.1. Information on toxicological effects

Acute toxicity

- Inhalation : • 1,2-Propane diol : LC50 (Rat, inhalation, 2 h) : >317 mg/l.
- Skin contact : • 1,2-Propane diol : LD50 (Rat, dermal) : >2000 mg/kg
- Ingestion : • 1,2-Propane diol : LD50 (Rat, oral) : 22000 mg/kg

Skin corrosion/irritation : Skin contact can damage eczema.
 Serious eye damage/irritation : May be irritating to eyes.
 Aspiration hazard : Hot vapours may cause lung damage.
 Respiratory or skin sensitisation : Not sensitive .
 Carcinogenicity : Not listed as carcinogenic .

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Mutagenicity :	Not listed as mutagenic .
Reproductive toxicity :	Not listed for reproductive toxicity .
Specific target organ toxicity - single : exposure For animals :	To human : Listed not for organ toxicity . No effects known.
Specific target organ toxicity - repeated : exposure For animals :	To human : Listed not for organ toxicity . No effects known.

12. Ecological information

12.1. Toxicity

Ecotoxicity :	• 1,2-Propane diol : LC50 (Fish, 96 h) : 51400 mg/l (Pimephales promelas) (OECD Guideline 203) • 1,2-Propane diol : EC50 (Algae, 72 h) : 24200mg/l (Pseudokirchneriella subcapitata) OECD Guideline 201) • 1,2-Propane diol : EC50 (Daphnia magna, 48 h) : 43500 mg/l (OECD Guideline 202)
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12.2. Persistence and degradability

Persistence and degradability :	• 1,2-Propane diol : Persistence and degradability : Readily biodegradable .
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12.3. Bioaccumulative potential

Bioaccumulation :	• 1,2-Propane diol : Bioaccumulation : Bioaccumulation not expected .
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12.4. Mobility in soil

Mobility :	• 1,2-Propane diol : Mobility : Product that is released into the environment tends to spread in water and soil, with low potential for evaporation.
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12.5. Results of PBT and vPvB assessment

Evaluation :	• 1,2-Propane diol : PBT/vPvB : No
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12.6. Other adverse effects

WGK class (DE) :	1 (Weak water pollutant)..
Water damaging (NL) :	11
Decontamination exertion (NL) :	B
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.

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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.
 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.

14. Transport information

14.1. UN number

UN Number : -----

14.2. UN proper shipping name

ADR Name : -----

ADN Name : -----

IMDG Name : -----

14.3. Transport hazard classe(s)

Class : -----

14.4. Packing group

Packaging Group : -----

14.5. Environmental hazards

Environmentally hazard : No

Marine pollutant : No

14.6. Special precautions for user

Danger number : -----

Hazard Label(s) : -----

EmS-N° : -----

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

Type ship : No data available.

Pollution category : Z

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15. Regulatory information

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

Inventories :

European inventory (EINECS): Not listed in inventory.

Relevant EU Rule(s) :

Directive 98/24/EC of the Council of 7 April 1998 on the protection of the health and 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)

15.2. Chemical Safety Assessment

At this time we do not yet have information on a chemical safety assessment..

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 :

Section 1 , Section 3 .

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>

List of abbreviations 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
 CO : Carbon monoxide
 DNEL (Derived No Effect Level) : an estimated safe exposure level
 EmS (Emergency Schedule) : the first code refers to the relevant fire schedule and the second code refers to the relevant spillage schedule
 IMDG (International Maritime Dangerous Goods code)
 NFPA (National Fire Protection Association) or fire diamant
 NVCI : National Poisoning Information Center
 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
 TWA (Time-Weighted Average) : the average exposure over a specified period
 vPvB : very persistent and very bioaccumulative
 WGK (Wassergefährdungsklasse) : a German classification of substances that indicate the environmental hazard for surface water

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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. Green Star denies all responsibility for loss or damage resulting from the use of these data.

Sector: Safety department

Contactperson: Mr. E. Wellens