

SAFETY DATA SHEET SAS450 (Hardener)

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name SAS450 (Hardener)

Container size 25ml

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

Identified uses Two-component, epoxy-based adhesive.

1.3. Details of the supplier of the safety data sheet

Supplier Nina Works,

Gelderd Road,

Leeds

LS12 6NA

Tel: +44 (0) 113 213 4300

1.4. Emergency telephone number

Emergency telephone +44 (0) 113 213 4300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens.

1 - H317

Environmental hazards Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram







Signal word

Danger

Hazard statements H302+H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe vapour/ spray.

P261 Avoid breathing vapour/ spray.

P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of water.

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

Rinse skin with water/ shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/ doctor if you feel unwell. P321 Specific treatment (see medical advice on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage. P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

Contains

Triethylene Glycol Dimercaptan, N(3-dimethylaminopropyl)-1,2-propylenediamine

2.3. Other hazards

Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Triethylene Glycol Dimercaptan

60-100%

CAS number: 14970-87-7

Classification

Acute Tox. 4 - H302 Acute Tox. 4 - H332

N(3-dimethylaminopropyl)-1,2-propylenediamine

10-30%

CAS number: 10563-29-8

Classification

Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Terphenyl 10-30%

CAS number: 26140-60-3

M factor (Acute) = 1 M factor (Chronic) = 1

Classification

Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. If breathing stops, provide

artificial respiration. For breathing difficulties, oxygen may be necessary. Get medical

attention if symptoms are severe or persist.

Ingestion Do not induce vomiting unless under the direction of medical personnel. Give a few small

glasses of water or milk to drink. Never give anything by mouth to an unconscious person. Get

medical attention if symptoms are severe or persist.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water. Wash clothing

and clean shoes thoroughly before reuse. Get medical attention if symptoms are severe or

persist.

Eye contact Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with

plenty of water. Continue to rinse for at least 15 minutes and get medical attention. If in doubt,

get medical attention promptly.

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

General information The product contains a sensitising substance.

Inhalation May be harmful if inhaled.

Ingestion Harmful if swallowed.

Skin contact Causes burns. May cause sensitisation by skin contact. May cause skin sensitisation or

allergic reactions in sensitive individuals.

Eye contact Causes serious eye irritation.

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

Specific treatments Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion

products

Oxides of carbon. Carbon dioxide (CO2). Carbon monoxide (CO). Oxides of nitrogen.

5.3. Advice for firefighters

Special protective equipment

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective

for firefighters clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8.

6.2. Environmental precautions

Environmental precautions To prevent release, place container with damaged side up. Avoid the spillage or runoff

entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Provide adequate ventilation. Eliminate all sources of ignition. Clear up spills immediately and

dispose of waste safely. Absorb spillage with sand or other inert absorbent. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13. See Section 11

for additional information on health hazards. See Section 12 for additional information on

ecological hazards.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking. Use only outdoors or in a well-ventilated area. Avoid contact with skin, eyes and clothing. Do not breathe gas, fume, vapours or spray. Do not eat, drink or smoke when using this product. Keep container tightly closed and at temperature not exceeding 23°C. Wash

hands thoroughly after handling.

Hygiene measures:

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed and at temperature not exceeding 23°C. Keep container tightly

sealed when not in use.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Terphenyl

Short-term exposure limit (15-minute): WEL 0.5 ppm 4.8 mg/m³

WEL = Workplace Exposure Limit

8.2. Exposure controls

Appropriate engineering

controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

Eye/face protection Wear chemical splash goggles.

Other skin and body

protection

Wear appropriate clothing to prevent skin contamination.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory

protection complying with an approved standard should be worn if a risk assessment indicates

inhalation of contaminants is possible.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Clear liquid. **Appearance** Colour Colourless.

Odour Strong.

pН Not applicable. Melting point

Initial boiling point and range >149°C @

Flash point ≥ 157°C COC (Cleveland open cup).

Not available.

Evaporation rate Not available. Vapour pressure Not available. Vapour density Not available.

Solubility(ies) Slightly soluble in water.

Partition coefficient Not available.

9.2. Other information

Other information No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous

Will not polymerise.

reactions

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame.

10.5. Incompatible materials

Materials to avoid Oxidising agents. Acids - oxidising. Acids - non-oxidising.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 555.5555556

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 12.22222222

SECTION 12: Ecological Information

Ecotoxicity Very toxic to aquatic life with long lasting effects. The product contains substances which are

toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic

environment.

12.1. Toxicity

Ecotoxicity

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Partition coefficient Not available.

12.4. Mobility in soil

Mobility No data on possible environmental effects have been found.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste, residues, empty containers, discarded work clothes and contaminated cleaning

materials should be collected in designated containers, labelled with their contents. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste

Disposal Authority.

Disposal methodsDispose of waste to licensed waste disposal site in accordance with the requirements of the

local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1760

UN No. (IMDG) 1760

UN No. (ICAO) 1760

UN No. (ADN) 1760

14.2. UN proper shipping name

Proper shipping name

CORROSIVE LIQUID, N.O.S.

(ADR/RID)

Proper shipping name (IMDG) CORROSIVE LIQUID, N.O.S.

Proper shipping name (ICAO) CORROSIVE LIQUID, N.O.S.

Proper shipping name (ADN) CORROSIVE LIQUID, N.O.S.

14.3. Transport hazard class(es)

ADR/RID class 8

ADR/RID classification code C9

ADR/RID label 8

IMDG class 8
ICAO class/division 8
ADN class 8

Transport labels



14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ADN packing group II

ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-A, S-B

ADR transport category 2
Emergency Action Code 2X
Hazard Identification Number 80

(ADR/RID)

Tunnel restriction code (E)

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

SECTION 15: Regulatory information

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

EU legislation 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 (as

amended).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of

Chemicals (REACH) (as amended).

Dangerous Preparations Directive 1999/45/EC.

VOC content (2010/75/EC)

15.2. Chemical safety assessment

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

SECTION 16: Other information

Revision date 30/08/2016

SDS number 5298

Hazard statements in full H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H332 Harmful if inhaled. H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the product.

WARRANTY: All products purchased from or supplied by Van-Line are subject to terms and conditions set out in the contract. Van-Line warrants only that its product will meet those specifications designated as such herein or in other publications. All other information supplied by Van-Line is consider accurate but are furnished upon the express condition the customer shall make its own assessment to determine the product's suitability for a particular purpose. Van-Line makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent.



According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

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

1.1. Product identifier

Product name SAS450 (Resin)

Container size 25ml

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

Identified uses Two-component, epoxy-based adhesive.

1.3. Details of the supplier of the safety data sheet

Supplier Nina Works,

Gelderd Road,

Leeds

LS12 6NA

Tel: +44 (0) 113 213 4300

1.4. Emergency telephone number

Emergency telephone +44 (0) 113 213 4300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Eye Irrit. 2 - H319 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram





Signal word Warning

Hazard statements H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements P261 Avoid breathing vapour/ spray.

P264 Wash contaminated skin thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. P321 Specific treatment (see medical advice on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

P501 Dispose of contents/ container in accordance with national regulations.

Contains Epoxy Resin (Epichlorohydrin, Bisphenol A), Formaldehyde, oligomeric reaction products with

1-chloro-2,3-epoxypropane and phenol

2.3. Other hazards

Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Epoxy Resin (Epichlorohydrin, Bisphenol A)

60-100%

CAS number: 25085-99-8

Classification

Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411

Formaldehyde, oligomeric reaction products with 1-chloro-

5-10%

2,3-epoxypropane and phenol

CAS number: 9003-36-5 EC number: 500-006-8

Classification

Skin Irrit. 2 - H315 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. For breathing difficulties,

oxygen may be necessary. If breathing stops, provide artificial respiration. Get medical

attention if symptoms are severe or persist.

Ingestion Do not induce vomiting unless under the direction of medical personnel. Never give anything

by mouth to an unconscious person. Get medical attention if symptoms are severe or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Wash

clothing and clean shoes thoroughly before reuse. Get medical attention if symptoms are

severe or persist after washing.

Eye contact Get medical attention if irritation persists after washing.

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

Inhalation May cause respiratory irritation.

Ingestion No specific symptoms known.

Skin contact May cause an allergic skin reaction. Irritating to skin.

Eye contact Causes eye irritation.

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

Notes for the doctorTreat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion

products

Oxides of carbon. Aldehydes Organic acids Acrid smoke or fumes.

5.3. Advice for firefighters

Special protective equipment

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective

for firefighters clothin

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Use suitable respiratory protection if ventilation is inadequate. Wear suitable protective

equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as

appropriate.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses. To prevent release,

place container with damaged side up.

6.3. Methods and material for containment and cleaning up

with sand or other inert absorbent. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled

with their contents.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health

hazards. See Section 12 for additional information on ecological hazards. For waste disposal,

see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking. Avoid contact with skin, eyes and clothing. Do not breathe gas, fume, vapours or

spray. Do not eat, drink or smoke when using this product.

Hygiene measures:

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Do not store near heat sources or expose to high temperatures. Store in tightly-closed,

original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering

controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any

statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

Eye/face protection Unless the assessment indicates a higher degree of protection is required, the following

protection should be worn: Wear chemical splash goggles.

Other skin and body

protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection Respiratory protection complying with an approved standard should be worn if a risk

assessment indicates inhalation of contaminants is possible.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Viscous liquid.

Colour Clear.

Odour Mild.

Initial boiling point and range

pH Not applicable.

Melting point Not available.

Flash point ≥ 249°C/480°F PMCC (Pensky-Martens closed cup).

260°C/500°F@

Evaporation rateNot available.Vapour pressureNot available.Vapour densityNot available.

Solubility(ies) Insoluble in water.

Partition coefficient Not available.

9.2. Other information

Other information None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous

Will not polymerise.

reactions

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame.

10.5. Incompatible materials

Materials to avoid Oxidising agents. Strong acids. Amines.

10.6. Hazardous decomposition products

Hazardous decomposition

Oxides of carbon. Aldehydes. Organic acids

products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects No data recorded.

SECTION 12: Ecological Information

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.1. Toxicity
Ecotoxicity

Toxicity No data available.

12.2. Persistence and degradability

Persistence and degradability No data available.

12.3. Bioaccumulative potential

Partition coefficient Not available.

12.4. Mobility in soil

Mobility No information available

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Dispose of waste to licensed waste disposal site in accordance with the requirements of the

local Waste Disposal Authority.

Disposal methods Waste, residues, empty containers, discarded work clothes and contaminated cleaning

materials should be collected in designated containers, labelled with their contents.

SECTION 14: Transport information

14.1. UN number

3082

14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Epoxy Resin Number average MWC <= 700)

14.3. Transport hazard class(es)

9

Transport labels



14.4. Packing group

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14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS F-A, S-F

Emergency Action Code 32

Hazard Identification Number 90

(ADR/RID)

Tunnel restriction code (E)

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

EU legislation

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (as amended).

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 (as amended).

Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.

Dangerous Preparations Directive 1999/45/EC.

VOC content (2010/75/EC)

15.2. Chemical safety assessment

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

SECTION 16: Other information

Revision date 30/08/2016

SDS number 5299

Hazard statements in full H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the product.

WARRANTY: All products purchased from or supplied by Van-Line are subject to terms and conditions set out in the contract. Van-Line warrants only that its product will meet those specifications designated as such herein or in other publications. All other information supplied by Van-Line is consider accurate but are furnished upon the express condition the customer shall make its own assessment to determine the product's suitability for a particular purpose. Van-Line makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent.