



# Safety Data Sheet

## BOSS® 231

### Section 1. Identification

Product Identifier BOSS 231  
Manufacturer's Part Number 146432

Recommended Use: Adhesive  
Uses advised Against: No uses advised against known

Manufacturer's Address: Soudal  
350 Ring Road  
Elizabethtown, KY 42701

Phone: (270) 769-3385  
Fax: (270) 765-2412

Emergency Phone (800) 424-9300 CHEMTREC

### Section 2: Hazard Identification

Classification FLAMMABLE AEROSOLS – Category 2  
CARCINOGEN – Category 2  
EYE IRRITANT – Category 2

Signal Word Danger

Pictogram



Hazard Statements Highly flammable liquid and vapor  
Suspected of causing cancer  
Causes serious eye irritation

Precautionary Statements If medical advice is needed, have product container or label at hand.  
Keep out of reach of children  
Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.  
Wear protective gloves and eye/face protection

IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
Rinse skin with water/shower.  
IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
If exposed or concerned: Get medical advice/attention.

Prevention  
Avoid breathing gas/vapors/spray.  
Avoid release to the environment.  
Contaminated work clothing must not be allowed to leave the workplace.  
Do not spray on an open flame or other ignition source.  
Keep away from heat.  
Pressurized container. Do not pierce or burn, even after use.  
Use only outdoors or in a well-ventilated area.  
Wash thoroughly after handling.  
Wear eye protection/face protection.

Storage  
Protect from sunlight.  
Do not expose to temperatures exceeding 50C/122F.

Disposal  
Dispose of contents/container in accordance with local, regional, national, or international regulations.

Ingredients of unknown toxicity: 0%

Supplemental information Repeated exposure may cause skin dryness or cracking

## Section 3: Ingredients

Name	CAS Number	Concentration (%)
Isobutyl acetate	110-19-0	17.334 – 34.669
Isopropyl acetate	108-21-4	6.934 – 7.334
Vinyl acetate	108-05-4	1.733 – 3.467

Occupational exposure limits if available are in section 8.

## Section 4: First Aid Measures

### Description of first aid measures

General If you feel unwell, seek medical advice.  
After Inhalation Remove victim into fresh air.  
Respiratory problems: consult a doctor/medical service.  
After skin contact Wash immediately with lots of water. Soap may be used.  
Take victim to a doctor if irritation persists.  
After eye contact Rinse immediately with plenty of water.

After ingestion  
Take victim to ophthalmologist if irritation persists.  
Rinse mouth with water  
Immediately after ingestion: give lots of water to drink.  
Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

**Most important symptoms and effects, both accurate and delayed**

Acute symptoms	
After inhalation	Irritation of the respiratory track. Irritation of the nasal mucous Membranes EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Headache. Nausea. Dizziness. Disturbances of conscience.
After skin contact	ON CONTINUOS EXPOSURE/CONTACT: Dry skin. Cracking of skin.
After eye contact	Irritation of the eye tissue
After ingestion	Nausea. Vomiting. AFTER INGESTION OF HIGH QUANTATIES: Central nervous depression. Symptoms similar to those listed under inhalation.
Delayed symptoms	No effects known

**Indication of any immediate medical attention and special treatment needed**

If applicable and available if will be listed below.

**Section 5: Firefighting Measures**

**Extinguishing Media**

Suitable extinguishing media: Alcohol-resistant foam. BC Powder. Carbon Dioxide.  
Unsuitable extinguishing media: Solid water jet ineffective as extinguishing media

**Special Hazards arising from the substance or mixture:**

Upon combustion: carbon monoxide and carbon dioxide are formed.

**Advice for firefighters**

Instructions: If exposed to fire cool the closed containers by spraying with water.  
Do not move the load if exposed to heat

Special protective equipment: Gloves. Protective clothing.  
Heat/fire exposure: compressed air/oxygen apparatus.

**Section 6: Accidental release measures**

**Personal precautions, protective equipment, and emergency procedures**

Stop engines and no smoking. No naked flames or sparks. Spark and explosionproof appliances and lighting equipment.

Protective equipment for non-emergency responders: See heading 8.2

Protective equipment for emergency responders: Gloves. Protective clothing.

Suitable protective clothing: See heading 8.2

**Environmental precautions**

Contain released product. Dam up liquid spill. Try to reduce evaporation. Prevent spreading in sewers. Use appropriate containment to avoid environmental contamination.

#### Methods and material for containment and cleaning up

Cover spill with inert material, e.g.: sand/earth. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

#### Reference to other sections

See heading 13.

## Section 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

#### Precautions for safe handling

Keep away from naked flames/heat. Insufficient ventilation: use spark/explosionproof appliances and lighting system. Insufficient ventilation: keep naked flames/sparks away. Gas/vapor heavier than air at 20C. Observe strict hygiene. Keep container slightly closed. Remove contaminated clothing immediately. Do not discharge the waste into the drain.

#### Conditions for safe storage, including any incompatibilities

Safe storage requirements	Storage temperature: 20C Ventilation at floor level. Store at room temperature. Maximum storage time: 1 year
Keep away from	Heat sources Ignition sources
Suitable packaging materials	materials
Non-suitable packaging materials	No data available

#### Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## Section 8: Exposure controls/personal protection

#### Control parameters

Occupational exposure limits  
(TLV-ACGIH)

Isobutyl acetate	TWA (8 h)	150 ppm
Isopropyl acetate	TWA (8 h)	100 ppm
Isopropyl acetate	Short time value	200 ppm
Vinyl acetate	TWA (8 h)	10 ppm

Vinyl acetate	Short time value	15 ppm
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### Sampling methods

Isobutyl acetate (Esters 1)	NIOSH	1450
Isobutyl acetate	OSHA	1009
Isopropyl acetate	NIOSH	1454
Isopropyl acetate	NIOSH	1460
Isopropyl acetate	OSHA	7
Vinyl acetate	NON	21

### Exposure Controls

Appropriate engineering controls

Keep away from naked flames/heat  
 Use spark-/explosionproof appliances and lighting systems  
 Measure the concentration in the air regularly  
 Work under local exhaust/ventilation

Individual protection measures

Observe strict hygiene.  
 Keep container tightly closed.  
 Do not eat, drink, or smoke during work.

Respiratory protection

Wear gas mask with filter type A if concentration in air  
 > exposure limit

Hand protection

Gloves

Eye protection

Protective goggles

Skin protection

Head/neck protection

Protective clothing

### Environmental exposure controls

See section 6 and 13.

## Section 9: Physical and chemical properties

### Information on basic physical and chemical properties

Physical form	Viscous
Odor	Solvent-like odor
Odor threshold	No data available
Color	Variable in color, depending on the composition
Particle Size	No data available
Explosion limits	No data available
Flammability	Highly flammable liquid and vapors
Log Kow	Not applicable (mixture)
Dynamic Viscosity	No data available
Kinematic Viscosity	No data available
Melting Point	No data available
Boiling Point	No data available
Flash Point	> 23 C
Evaporation Rate	No data available
Relative vapor density	> 1
Vapor Pressure	< 1100 hPa; 50C

Solubility	Water; insoluble
	Organic solvents; soluble
Relative density	1.1
Decomposition temperature	No data available
Auto-ignition temperature	No data available
Explosive properties	No chemical group associated with explosive properties
Oxidizing properties	No chemical group associated with oxidizing properties
pH	No data available

#### Other information

Absolute density	1080 kg/m <sup>3</sup>
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## Section 10: Stability and reactivity

Reactivity	May be ignited by sparks Gas/vapors spreads at floor level: ignition hazard
Chemical Stability	Stable under normal conditions
Possibilities of hazardous reactions:	No data available
Conditions to avoid	Keep away from naked flames/heat. Use spark-/explosionproof appliances and lighting systems
Incompatible materials:	No data available
Hazardous decomposition products	Upon combustion, carbon monoxide and carbon dioxide

## Section 11: Toxicological information

#### Information on toxicological effects

Acute toxicity

BOSS 231 No (test) data available on the mixture

Isobutyl acetate

Route of Exposure	Parameter	Value	Species
Oral	LD50	13400 mg/kg	Rat
Dermal	LD50	> 5000 mg/kg	Rabbit

Isopropyl acetate

Route of exposure	Parameter	Value	Exposure time	Species
Oral	LD50	6750 mg/kg		Rat
Dermal	LD50	> 17490 mg/kg		Rabbit
Inhalation	LC50	71.3 mg/L	4 h	Rat
Inhalation	LC50	17100 ppm	4 h	Rat

Vinyl acetate

Route of exposure	Parameter	Value	Exposure Time	Species	Value determination
Oral	LD50	3470 mg/kg		Rat (male)	Weight on evidence
Dermal	LD50	7440 mg/kg	24 h	Rabbit (male)	Experimental value
Inhalation (vapor)	LC50	15.81 mg/L	4 h	Rat (male/female)	Weight of evidence
Inhalation (vapors)	LC50	4490 ppm	4 h	Rat (male/female)	Weight of evidence

#### Corrosion/irritation

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No (test)data available on the mixture

Vinyl acetate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 h	Rabbit	Experimental value	Single treatment
Skin	Not irritating	OECD 404	4 h	24; 48; 72 h	Rabbit	Experimental value	
Inhalation	Irritating; STOT SE Cat 3					Annex VI	

**Respiratory or skin sensitization****BOSS 231**

No (test)data available on the mixture

Vinyl acetate

Route of exposure	Result	Method	Species	Value determination
Skin	Not sensitizing	OECD 429	Mouse (female)	Experimental value

**Specific target organ toxicity****BOSS 231**

No (test)data available on the mixture

Vinyl acetate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure Time	Species	Value determination
Oral (drinking water)	NOAEL	OECD 408	281 mg/kg bw/day		No effect	14 weeks (daily)	Mouse (female)	Experimental value
Oral (drinking water)	NOAEL	OECD 408	285 mg/kg bw/day		No effect	14 weeks (daily)	Mouse (male)	Experimental value
Inhalation (vapors)	NOAEC systemic effects	OECD 453	704 mg/m <sup>3</sup> air		No adverse systemic effects	104 weeks (6 h/day, 5 days/week)	Rate (male and female)	Experimental value
Inhalation (vapors)	NOAEC local effects	OECD 453	176 mg/m <sup>3</sup> air	Nose	No effect	104 weeks (6h/day, 5 days/week)	Rat (male and female)	Experimental value

**Mutagenicity (in vitro)****BOSS 231**

No (test)data available on the mixture

Vinyl acetate

Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria ( <i>S. typhimurium</i> )	No effect	Experimental value
Positive without metabolic activation	OECD 473	Huan lymphocytes	Chromosome aberrations	Experimental value

**Mutagenicity (in vivo)****BOSS 231**

No (test)data available on the mixture

Vinyl acetate

Result	Test substrate	Organ	Value determination
Negative	Mouse (male)	Testes	Experimental value

Not classified for mutagenic or genotoxic toxicity.

### Carcinogenicity

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No (test) data available on the mixture

Vinyl acetate

Route of exposure	Parameter	Method	Value	Exposure Time	Species	Effect	Value determination
Inhalation (vapors)	NOAEC	OECD 453	176 mg/m <sup>3</sup>	104 weeks (6h/day, 5 days/week)	Mouse (Male/female)	No effect	Experimental value
Oral (drinking water)	BMDL10	OECD 453	477 mg/kg bw/day	104 weeks	Mouse (male/female)	Carcinogenicity	Experimental value

### Reproductive toxicity

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No (test) data available on the mixture

Vinyl acetate

	Parameter	Method	Value	Exposure Time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 414	205 mg/kg/d	10 days (6h/day)	Rat	No effect	Fetus	Experimental value
Material toxicity	NOAEC	OECD 414	205 mg/kg/d	10 days (6 h/day)	Rat	No effect	General	Experimental value
Effects on fertility	NOAEL	OECD 416	100 mg/kg/d		Rat (male/female)	No effect		Experimental value

### Toxicity other effects

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No (test) data available on the mixture

Classification is based on the relevant ingredients.

Conclusion:

Repeated exposure may cause skin dryness or cracking.

### Chronic effects from short- and long-term exposure

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No effects known

## Section 12: Ecological information

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No (test) data available on the mixture

Isobutyl acetate

	Parameter	Value	Duration	Species	Value determination
Acute toxicity fishes	LC50	100 mg/L	96 h	Lepomis macrochirus	



Acute toxicity crustacean	EC50	146 – 192 mg/L	48 h	Daphnia Magna	
Toxicity algae and other aquatic plants	EC50	320 mg.L		Scenedesmus quadricauda	Nocivity test

#### Isopropyl acetate

	Parameter	Method	Value	Duration	Species
Acute toxicity fishes	LC50		265 mg/L	48 h (static system)	Leuciscus idus
Acute toxicity crustacean	EC50	OECD 202	4150 mg/L	24 h	Daphnia magna
Toxicity algae and other aquatic plants	EC50		165 mg/L	168 h	Scenedesmus quadricauda

#### Vinyl acetate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50		14-44 mg/L	96 h	Pimehales promelas			
Acute toxicity crustacean	EC50	OECD 202	12.6 mg/L	48 h	Daphnia magna	Static	Fresh	Experimental value
Toxicity algae and other aquatic plants	EC50	OECD 201	12.7 mg/L	72 h	Psuedokirchneriella subcapitata		Fresh	Experimental value; growth rate
Long-term toxicity fish	NOEC	OECD 210	0.551 mg/L	34 days	Pimephales promelas	Flow-through system	Fresh	Experimental value; larvae
	LOEC	OECD 210	0.93 mg/L	34 days	Pemephales promelas	Flow-through system	Fresh	Experimental value; larvae

#### Conclusion:

Not classified as dangerous for the environment.

### **Persistence and degradability**

#### Isobutyl acetate

Method	Value	Duration	Value determination
OECD 301E; Modified OECD screening	98%	21 days	Experimental design

#### Vinyl acetate

##### Biodegradation water

Method	Value	Duration	Value determination
OECD 301C; Modified MITI (I)	82 – 98%	14 days	Experimental design

##### Phototransformation air (DT50 air)

Method	Value	Duration	Value determination
	14.6 h		Calculated value

#### Conclusion

Contains readily available biodegradable component(s)

## Bioaccumulative potential

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Not applicable (mixture)

Isobutyl acetate

BCF fishes

Parameter	Value	Species
BCF	4 – 9.7; estimated value	Pisces

Log Kow 1.59 – 1.78

Isopropyl acetate

BCF fishes

Parameter	Value	Species
BCF	1.8	Pisces

Log Kow 0.98 – 1.3

Vinyl acetate

BCF fishes

Parameter	Value	Species
BCF	3.16	Pisces

BCF other aquatic organisms

Parameter	Value	Species
BCF	2.09 – 2.34	

Log Kow 0.73

### Conclusion

No straightforward conclusion can be drawn based upon the available numerical values.

## Mobility in soil

Vinyl acetate

(log) Koc

Parameter	Value	Value determination
Koc	24.21	Pisces

Volatility (Henry's Law constant H)

Value	Temperature	Value determination
51.6 PA.m <sup>3</sup> /mol	20C	Calculated value

### Conclusion

No (test) data on mobility of the components available.

## Results of PBV and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB.

## Other adverse effects

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Ozone depleting potential Not classified as dangerous for the ozone layer

Isobutyl acetate

Ground water Ground water pollutant

Vinyl acetate

Ground water Ground water pollutant

## Section 13: Disposal Considerations

Disposal methods	Remove waste in accordance with local, state, national and international regulations.
Contaminated packaging	No data available

## Section 14: Transport information

UN Number	1133
UN Proper Shipping Name	Adhesives
Transport Hazard Class	3



Packing Group	III
Packing Group Labels	3
Environmental Hazards	No

## Section 15: Regulatory information

### SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS Number	Revision Date
Vinyl acetate	108-05-4	2008-11-03

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, SARA 313:

	CAS Number	Revision Date
Vinyl acetate	108-05-4	2008-11-03

Massachusetts Right to Know		
Isobutyl acetate	110-19-0	

Pennsylvania Right to Know		
Isobutyl acetate	110-19-0	
Isopropyl acetate	108-21-4	
Vinyl acetate	108-05-4	

### California Prop 65

This product does not contain any chemicals known to the state of California to cause cancer, birth, or reproductive defects. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## **Section 16: Other information**

Revision Date

01/11/2021

### **Disclaimer**

The data contained herein is based upon information that Soudal believes reliable. Users of this product have the responsibility to determine that suitability of use and to adopt all necessary precautions to ensure the safety and protection of property and persons involved in said use. All statements or suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.