# SAFETY DATA SHEET



Date of issue/Date of revision 16 January 2025

Version 1.01

### Section 1. Identification

Product code : 00475850

Product name : SIGMADUR 550 BASE RAL 3011

Product type : Liquid.

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

Product use : Coating.

Professional applications, Used by spraying.

Supplier's details : PPG Industries (Singapore) Pte. Ltd., No. 1 Tuas Basin Close, Singapore 638803.

Tel +65 68653737

Emergency telephone number (with hours of

operation)

: CHEMTREC +(65)-31581349 (CCN 17704)

# Section 2. Hazards identification

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 3

ACUTE TOXICITY (inhalation) - Category 4 SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

SKIN SENSITIZATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

### GHS label elements, including precautionary statements

Hazard pictograms :





Signal word : Warning

**Hazard statements**: Flammable liquid and vapor.

Causes skin irritation.

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

Harmful if inhaled.

May cause respiratory irritation.

**Precautionary statements** 

Singapore English (US) Page: 1/13

Product code 00475850 Version 1.01 Date of issue 16 January 2025

**Product name SIGMADUR 550 BASE RAL 3011** 

### Section 2. Hazards identification

: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot **Prevention** 

surfaces, sparks, open flames and other ignition sources. No smoking. Avoid

breathing vapor. Wash thoroughly after handling.

: IF INHALED: Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN: Response

Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. 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 or

attention.

: Store in a well-ventilated place. Keep container tightly closed. **Storage** 

**Disposal** : Not applicable.

result in classification

Other hazards which do not : Prolonged or repeated contact may dry skin and cause irritation.

# Section 3. Composition/information on ingredients

Substance/mixture : Mixture

### **CAS** number/other identifiers

**CAS** number : Not applicable. **EC** number : Mixture.

Ingredient name	%	CAS number
<b>x</b> ylene	20 - <25	1330-20-7
n-butyl acetate	5 - <10	123-86-4
ethylbenzene	3 - <5	100-41-4
Talc , not containing asbestiform fibres	1 - <3	14807-96-6
Octadecanamide, N,N'-1,6-hexanediylbis[12-hydroxy-	1 - <3	55349-01-4
bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate	0.1 - < 0.3	41556-26-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

### Section 4. First aid measures

### **Description of necessary first aid measures**

: Remove contact lenses, irrigate copiously with clean, fresh water, holding the Eye contact

eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is

irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by

trained personnel.

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

water or use recognized skin cleanser. Do NOT use solvents or thinners.

: If swallowed, seek medical advice immediately and show this container or label. Ingestion

Keep person warm and at rest. Do NOT induce vomiting.

**Singapore** English (US) Page: 2/13 Product code 00475850 Version 1.01 Date of issue 16 January 2025

**Product name SIGMADUR 550 BASE RAL 3011** 

### Section 4. First aid measures

### Most important symptoms/effects, acute and delayed

### Potential acute health effects

Eye contact : Causes serious eye irritation.

: Harmful if inhaled. May cause respiratory irritation. Inhalation

: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction. Skin contact

: No known significant effects or critical hazards. Ingestion

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:

> pain or irritation watering

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

redness

Skin contact : Adverse symptoms may include the following:

> irritation redness dryness cracking

Ingestion : No specific data.

#### Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it

is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing

thoroughly with water before removing it, or wear gloves.

#### See toxicological information (Section 11)

### Section 5. Fire-fighting measures

#### **Extinguishing media**

Suitable extinguishing

media

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing** 

media

: Do not use water jet.

Specific hazards arising

from the chemical

: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

**Singapore** English (US) Page: 3/13 **Product name SIGMADUR 550 BASE RAL 3011** 

### Section 5. Fire-fighting measures

**Hazardous thermal** decomposition products : Decomposition products may include the following materials: carbon oxides nitrogen oxides

sulfur oxides metal oxide/oxides

**Special protective actions** for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective** equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** 

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

**Singapore** English (US) Page: 4/13

# Section 7. Handling and storage

### **Precautions for safe handling**

**Protective measures** 

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

including any incompatibilities

Conditions for safe storage, : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

# Section 8. Exposure controls/personal protection

### **Control parameters**

Occupational exposure limits

Ingredient name	Exposure limits	
<b>x</b> ýlene	Workplace Safety and Health Act (Singapore, 2/2006) [Xylene] PEL (long term) 8 hours: 100 ppm. PEL (long term) 8 hours: 434 mg/m³. PEL (short term) 15 minutes: 651 mg/m³. PEL (short term) 15 minutes: 150 ppm.	
n-butyl acetate	Workplace Safety and Health Act (Singapore, 2/2006)  PEL (long term) 8 hours: 150 ppm.  PEL (long term) 8 hours: 713 mg/m³.  PEL (short term) 15 minutes: 950 mg/m³.	
ethylbenzene	PEL (short term) 15 minutes: 200 ppm.  Workplace Safety and Health Act (Singapore, 2/2006)	

English (US) **Singapore** Page: 5/13 Product code 00475850

Date of issue 16 January 2025

Version 1.01

**Product name SIGMADUR 550 BASE RAL 3011** 

Talc, not containing asbestiform fibres

### Section 8. Exposure controls/personal protection

PEL (long term) 8 hours: 100 ppm.
PEL (long term) 8 hours: 434 mg/m³.
PEL (short term) 15 minutes: 543 mg/m³.
PEL (short term) 15 minutes: 125 ppm.

Workplace Safety and Health Act (Singapore, 2/2006)

PEL (long term) 8 hours: 2 mg/m<sup>3</sup>.

Recommended monitoring procedures

: Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure** controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### **Individual protection measures**

**Hygiene measures** 

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Skin protection

Hand protection

: Chemical splash goggles.

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Gloves** 

: butyl rubber

**Body protection** 

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Singapore English (US) Page: 6/13

Product code 00475850 Version 1.01 Date of issue 16 January 2025

**Product name SIGMADUR 550 BASE RAL 3011** 

## Section 8. Exposure controls/personal protection

Respiratory protection

: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

# Section 9. Physical and chemical properties

**Appearance** 

**Physical state** : Liquid.

Color Brownish-red. Odor Characteristic. pН : insoluble in water. **Boiling point** : >37.78°C (>100°F) Flash point : Closed cup: 25°C (77°F)

**Evaporation rate** : Not available.

: liquid Flammability (solid, gas)

: Not available. Vapor pressure

Vapor density

1.24 **Relative density** 

Media Result Solubility(ies)

cold water Not soluble

**Auto-ignition temperature** 

**Viscosity** Dynamic (room temperature): Not available. Kinematic (room temperature): Not available.

: Not available.

Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)

# Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous** reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition

products.

**Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions:

oxidizing agents, strong alkalis, strong acids.

**Hazardous decomposition** 

products

: Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides metal oxide/oxides

**Singapore** English (US) Page: 7/13

**Product name SIGMADUR 550 BASE RAL 3011** 

# Section 11. Toxicological information

### **Information on toxicological effects**

### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
•	LD50 Oral	Rat	4.3 g/kg	-
n-butyl acetate	LC50 Inhalation Vapor	Rat	>21.1 mg/l	4 hours
•	LC50 Inhalation Vapor	Rat	2000 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10.768 g/kg	-
ethylbenzene	LC50 Inhalation Vapor	Rat	17.8 mg/l	4 hours
•	LD50 Dermal	Rabbit	17.8 g/kg	-
	LD50 Oral	Rat	3.5 g/kg	-
bis(1,2,2,6,6-pentamethyl- 4-piperidyl) sebacate	LD50 Oral	Rat	3.125 g/kg	-

Conclusion/Summary

: There are no data available on the mixture itself.

### **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
kylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

**Conclusion/Summary** 

Skin
: There are no data available on the mixture itself.
Eyes
: There are no data available on the mixture itself.
Respiratory
: There are no data available on the mixture itself.

**Sensitization** 

**Conclusion/Summary** 

Skin : There are no data available on the mixture itself.Respiratory : There are no data available on the mixture itself.

**Mutagenicity** 

**Conclusion/Summary**: There are no data available on the mixture itself.

**Carcinogenicity** 

**Conclusion/Summary**: There are no data available on the mixture itself.

Reproductive toxicity

**Conclusion/Summary**: There are no data available on the mixture itself.

**Teratogenicity** 

**Conclusion/Summary**: There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Singapore English (US) Page: 8/13

**Product name SIGMADUR 550 BASE RAL 3011** 

### **Section 11. Toxicological information**

Name		Route of exposure	Target organs
xylene	Category 3		Respiratory tract irritation
n-butyl acetate Talc , not containing asbestiform fibres	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Name		Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs

### **Aspiration hazard**

Name	Result
	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

: Not available.

Potential acute health effects

**Eye contact** : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation.

**Skin contact**: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

**Ingestion**: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:

pain or irritation watering redness

**Inhalation** : Adverse symptoms may include the following:

respiratory tract irritation

coughing

**Skin contact**: Adverse symptoms may include the following:

irritation redness dryness cracking

Ingestion : No specific data.

<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u>

<u>Short term exposure</u>

Singapore English (US) Page: 9/13

**Product name SIGMADUR 550 BASE RAL 3011** 

### **Section 11. Toxicological information**

Potential immediate

effects

: Not available.

**Potential delayed effects** 

: Not available.

Long term exposure

**Potential immediate** 

: Not available.

effects

Potential delayed effects : Not available.

#### Potential chronic health effects

General: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/

or dermatitis. Once sensitized, a severe allergic reaction may occur when

subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Reproductive toxicity : No known significant effects or critical hazards.

#### Numerical measures of toxicity

### **Acute toxicity estimates**

Route	ATE value
Inhalation (vapors)	4939.01 mg/kg 26.56 mg/l 3.41 mg/l

### Other information

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

# Section 12. Ecological information

#### **Toxicity**

Product/ingredient name	Result	Species	Exposure
	Acute LC50 18 mg/l	Fish	96 hours
	Acute EC50 1.8 mg/l Fresh water	Daphnia	48 hours
	Chronic NOEC 1 mg/l Fresh water	Daphnia - <i>Ceriodaphnia dubia</i>	-

**Conclusion/Summary**: There are no data available on the mixture itself.

### Persistence/degradability

Singapore E	English (US)	Page: 10/13
-------------	--------------	-------------

Product code 00475850

Date of issue 16 January 2025

Version 1.01

**Product name SIGMADUR 550 BASE RAL 3011** 

## Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
n-butyl acetate	TEPA and OECD 301D	83 % - Readily - 28 days	-	-
ethylbenzene	-	79 % - Readily - 10 days	-	-

#### **Conclusion/Summary**

: There are no data available on the mixture itself.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene n-butyl acetate	-	-	Readily Readily
ethylbenzene	-	-	Readily

### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
xylene n-butyl acetate ethylbenzene	3.12	7.4 to 18.5	Low
	2.3	-	Low
	3.6	79.43	Low

### **Mobility in soil**

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

### Section 13. Disposal considerations

### **Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Singapore English (US) Page: 11/13

Product code 00475850 Date of issue 16 January 2025 Version 1.01
Product name SIGMADUR 550 BASE RAL 3011

# Section 14. Transport information

	UN	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class(es)	3	3	3
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

### **Additional information**

UN : None identified.IMDG : None identified.IATA : None identified.

Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

Transport in bulk according : Not applicable.

to IMO instruments

# Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

**International regulations** 

**Montreal Protocol** 

Not listed.

**Stockholm Convention on Persistent Organic Pollutants** 

Not listed.

Singapore English (US) Page: 12/13

**Product name SIGMADUR 550 BASE RAL 3011** 

### **Section 16. Other information**

**History** 

Date of issue/Date of : 16 January 2025

revision

Date of previous issue: 2/7/2024Version: 1.01Prepared by: EHS

**Key to abbreviations** : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

**UN = United Nations** 

✓ Indicates information that has changed from previously issued version.

#### **Notice to reader**

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Singapore English (US) Page: 13/13