



Qualitative Analysis and Chemical Bonding

Concepts:

Chemical bonds, structure-property relationships, ionic bonds, covalent bonds, polar covalent bonds, nonpolar covalent bonds, metallic bonds

Use the following recommendations to increase and/or decrease the challenge difficulty for your students.

Short-on-time Inquiry Lab:

Students follow a detailed procedure to test for six properties of six compounds to determine the type of bonding or interparticle force that holds the constituent particles in each compound together. Students answer questions meant to probe their understanding of the structure-property relationship. (30 min.)

Guided Inquiry Lab:

Students follow a detailed procedure to test for six properties of twelve compounds to determine the type of bonding or interparticle force that holds the constituent particles in each compound together. Students answer questions meant to probe their understanding of the structure-property relationship. (50 min.)

Open Inquiry Lab:

Following an introduction to the fundamental types of bonding, students must develop a procedure to characterize an unknown solid as ionic, polar covalent, nonpolar covalent, or metallic. Students then answer questions meant to probe their understanding of the structure-property relationship. (50–90 min.)

Advanced Inquiry Lab:

In the absence of an introductory activity students must develop a procedure to characterize an unknown solid as ionic, polar covalent, nonpolar covalent, or metallic. (60–90 min.)

Outcomes:

Students come to understand that a material's properties are linked to the material's structure and bonding.

Associated Phenomena:

Why are some materials good for certain applications but not others?

Standards

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Planning and carrying out investigations Analyzing and interpreting data Constructing explanations and designing solutions	HS-PS1.A: Structure and Properties of Matter	Patterns Structure and function Cause and effect

Performance Expectations

HS-PS1-3: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers

SB Merriam



Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers:

Paperbound Books in Print ,1992 Government Reports Announcements & Index ,1984-03 Introduction to Semimicro Qualitative Analysis J. J. Lagowski, Clarence Harvey Sorum, 2005 For courses in General Chemistry Lecture and Laboratory and Qualitative Inorganic Analysis This self teaching lab manual presents a process for learning descriptive chemistry and the chemistry of the more common elements and their compounds in the format of a scheme of analysis Students are challenged to call upon their manipulative and observational skills to provide the basis for identifying a substance or a mixture of substances Part I describes the strategy of qualitative analysis so that students have a review of the principles readily available when they are engaged in the details of laboratory work Part II presents the concepts involved in qualitative analysis systematically dealing with the nature of the chemical compounds Part III features well tested analytical laboratory procedures

Yeah, reviewing a books **Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers** could go to your close contacts listings. This is just one of the solutions for you to be successful. As understood, execution does not recommend that you have extraordinary points.

Comprehending as without difficulty as understanding even more than further will meet the expense of each success. next-door to, the statement as with ease as keenness of this Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers can be taken as capably as picked to act.

<https://staging.conocer.cide.edu/book/uploaded-files/Documents/Elementary%20Algebra%20New%20Edition%20Part%201.pdf>

Table of Contents Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers

1. Understanding the eBook Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers
 - The Rise of Digital Reading Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers
 - Advantages of eBooks Over Traditional Books
2. Identifying Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers
 - User-Friendly Interface
4. Exploring eBook Recommendations from Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers
 - Personalized Recommendations
 - Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers User Reviews and Ratings
 - Flinn Scientific Qualitative Analysis And Checmial Bonding Postlab Answers and Bestseller Lists

5. Accessing Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Free and Paid eBooks
 - Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Public Domain eBooks
 - Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers eBook Subscription Services
 - Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Budget-Friendly Options
6. Navigating Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers eBook Formats
 - ePub, PDF, MOBI, and More
 - Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Compatibility with Devices
 - Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Highlighting and Note-Taking Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Interactive Elements Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
8. Staying Engaged with Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
9. Balancing eBooks and Physical Books Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Setting Reading Goals Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Fact-Checking eBook Content of Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers
 - Distinguishing Credible Sources

13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Introduction

In the digital age, access to information has become easier than ever before. The ability to download Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers has opened up a world of possibilities. Downloading Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers,

users should also consider the potential security risks associated with online platforms. Malicious actors may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

FAQs About Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers is one of the best book in our library for free trial. We provide copy of Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers. Where to download Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers online for free? Are you looking for Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers PDF? This is definitely going to save you time and cash in something you should think about.

Find Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers :

elementary algebra new edition part 1

electronic structure basic theory and practical methods

elements of radiobiology

elevated temperature testing of metals

~~elementary spoken swedish.~~

elements of biology

elements of fluid mechanics 2nd edition

~~electronic motors and motor control~~

~~elementary fluid mechanics 2nd edition~~

~~elephants gentle giants of africa and asia~~

elementary school curriculum

electrotechnology volume 2 applications in manufacturing.

~~elements of set theory~~

elements of italy

elements of ore dressing

Flinn Scientific Qualitative Analysis And Chemical Bonding Postlab Answers :

berlitz phrase book dictionary vietnamese bilingual dictionary - Oct 21 2022

may 1 2019 berlitz phrasebook and dictionary vietnamese compact clear and packed with key words and phrases to help conversation this pocket sized vietnamese phrasebook and dictionary from berlitz s trusted language experts with free app is a trusty travel companion and all you need to make yourself understood and to understand others when you re out

berlitz vietnamese phrase book cd - Jul 30 2023

home vietnamese phrase book cd vietnamese phrase book cd the berlitz vietnamese phrase book cd is ideal for people visiting vietnam in addition to all the phrases users really need to express themselves in vietnamese the phrase book published 02 04 2013 format 124 x 145 number of pages 224 isbn 13 9781780043821

berlitz vietnamese phrase book cd vietnamese and english - Aug 31 2023

may 1 2013 books advanced search new releases best sellers more amazon book clubs children s books textbooks textbook rentals best books of the month best books of 2023 so far your company bookshelf paperback 23 10

berlitz languages vietnamese - Apr 26 2023

southeast asia phrase book dictionary this brand new multi language phrase book will ensure your travel throughout southeast asia with ease

phrase book and cd ser vietnamese berlitz language by berlitz - May 28 2023

phrase book and cd ser vietnamese berlitz language by berlitz publishing 2013 mixed media for sale online ebay skip to main content shop by category shop by category enter your search keyword all categories advanced hi sign into bid or buy daily deals brand outlet help contact sell watchlistexpand watch list loading

berlitz vietnamese phrase book cd vietnamese edition - Mar 14 2022

education instructional books chevron right fiction books chevron right mystery books chevron right romance novels chevron right science fiction fantasy books chevron right history novels chevron right children s books chevron right religious

berlitz language vietnamese phrase book cd berlitz phrase book cd - Nov 21 2022

verwandte artikel zu berlitz language vietnamese phrase book cd berlitz berlitz international inc berlitz language vietnamese phrase book cd berlitz phrase book cd

berlitz language vietnamese phrase book cd berlitz phrase - Aug 19 2022

we have 2 copies of berlitz language vietnamese phrase book cd berlitz phrase book cd for sale starting from 11 64 this website uses cookies we value your privacy and use cookies to remember your shopping preferences and to analyze our website traffic

berlitz vietnamese phrase book cd goodreads - Dec 23 2022

may 1 2013 rate this book this fully revised edition features a fresh crisp new design with stunning images improved color coding and user generated content making it the phrase book created by the people for the people

berlitz language vietnamese phrase book cd anobii com - May 16 2022

discover the story and reviews of berlitz language vietnamese phrase book cd published by berlitz publishing company on anobii

berlitz phrasebooks - Jun 28 2023

multi language phrase book dictionary a handy pocket sized new series perfect for multi country trips on sale now

berlitz language vietnamese phrase book cd paperback - Sep 19 2022

berlitz language vietnamese phrase book cd berlitz publishing on amazon com au free shipping on eligible orders berlitz language vietnamese phrase book cd skip to main content

berlitz language vietnamese phrase book cd - Feb 10 2022

punjabi books rare languages books romanian books russian books serbian books sinhala books sinhalese books slovak books

sls books spanish books swahili books swedish books tagalog books tajiki book tamil books thai books tibetan books turkish books ukrainian books urdu books uzbek book vietnamese book welsh

berlitz phrase book dictionary vietnamese bilingual dictionary - Oct 01 2023

may 1 2019 4 1 13 ratings see all formats and editions paperback 9 99 22 used from 5 99 18 new from 6 56 berlitz phrasebook and dictionary vietnamese

berlitz language vietnamese phrase book cd audiobook - Apr 14 2022

berlitz language vietnamese phrase book cd audiobook download free by berlitz publishing published by berlitz publishing company

berlitz language vietnamese phrase book cd alibris - Mar 26 2023

the berlitz vietnamese phrase book cd is ideal for people visiting vietnam in addition to all the phrases users really need to express themselves in vietnamese the phrase book offers a wealth of useful cultural tips on vietnam

berlitz language vietnamese phrase book cd paperback - Jul 18 2022

berlitz language vietnamese phrase book cd berlitz international inc amazon sg books

berlitz language vietnamese phrase book cd paperback - Jan 24 2023

buy berlitz language vietnamese phrase book cd by berlitz publishing online on amazon ae at best prices fast and free shipping free returns cash on delivery available on eligible purchase

berlitz vietnamese phrase book dictionary vietnamese and - Feb 22 2023

may 1 2013 berlitz vietnamese phrase book dictionary vietnamese and english edition berlitz publishing on amazon com free shipping on qualifying offers berlitz vietnamese phrase book dictionary vietnamese and english edition 2 486 in travel language phrasebooks books 10 302 in foreign dictionaries thesauruses customer

berlitz language vietnamese phrase book cd itcher com - Jun 16 2022

find out more recommended books with our spot on books app berlitz language vietnamese phrase book cd synopsis ratings video reviews similar books more back

essentials of economics edition 8 by bradley schiller - Jun 13 2023

web essentials economics 8th edition by schiller bradley 23results you searched for author schiller bradley title essentials economics 8th edition edit your search

essentials of economics 8th edition by bradley r schiller - Oct 05 2022

web sep 20 2010 rent or buy essentials of economics 9780073511399 by schiller bradley for as low as 1 91 at ecampus com voted 1 site for buying textbooks

essentials of economics 8th eighth edition bradley schiller - Aug 23 2021

essentials of economics 12th edition mcgraw hill - Jun 01 2022

web this university textbook entitled economics provides a comprehensive overview of the fundamental principles of economics it covers topics such as supply and demand

essentials of economics schiller bradley r 1943 free - Dec 07 2022

web sep 20 2010 essentials of economics 8th edition by bradley r schiller paperback book 383 pages see other available editions description essentials of economics is

essentials economics 8th edition by schiller bradley books - May 12 2023

web buy essentials of economics 8th edition 9780073511399 by bradley r schiller for up to 90 off at textbooks com
essentials of economics 8th edition schiller bradley - Aug 15 2023

web jan 1 2010 loose leaf for essentials of economics 102 19 only 2 left in stock order soon essentials of economics 8th edition by bradley r schiller with access card

bookmark file essentials of economics schiller 8th edition free - Nov 25 2021

web jan 1 2010 essentials of economics 8th eighth edition bradley schiller on amazon com free shipping on qualifying offers
essentials of economics 8th

essentials of economics 8th edition schiller bradley - Feb 09 2023

web english xxviii 398 p 27 cm includes index the challenge of economics the u s economy supply and demand consumer demand supply decisions

essentials of economics 8th edition by schiller bradley new - Jan 08 2023

web aug 10 2021 essentials of economics schiller bradley r free download borrow and streaming internet archive

essentials economics 8th edition by schiller bradley abebooks - Apr 11 2023

web essentials of economics 8th edition schiller bradley 3 42 avg rating 93 ratings by goodreads softcover isbn 10 0073511390 isbn 13 9780073511399 publisher

amazon com customer reviews essentials of economics 8th - Oct 25 2021

book isbn campusbooks - Jul 02 2022

web essentials of economics 9 e bradley r schiller professor emeritus american university cynthia hill idaho state university please check with your instructor or

essentials of economics 8th edition allbookstores com - Sep 04 2022

web this tool helps you determine if you should buy or rent your textbooks based on the total cost of ownership including buyback value answer the questions at right to get an even

essentials of economics schiller bradley r archive org - Nov 06 2022

web sep 20 2010 essentials of economics 8th edition by schiller bradley click here for the lowest price paperback

9780073511399 0073511390

essentials of economics 8th edition by bradley schiller quiz - Mar 30 2022

web bradley schiller essentials of economics 8th edition essentials of economics nov 01 2022 a part of the most successful introductory economics series in the last twenty

essentials of economics 8th edition textbooks com - Mar 10 2023

web essentials of economics 8th edition essentials of economics 8th edition schiller bradley 90 ratings by goodreads isbn 10 0073511390 isbn 13 9780073511399

essentials of economics information center mcgraw hill - Apr 30 2022

web find step by step solutions and answers to essentials of economics 9780077464530 as well as thousands of textbooks so you can move forward with confidence fresh features

bradley schiller essentials of economics 8th edition - Dec 27 2021

web jan 1 2013 essentials of economics eight edition bradley r schiller on amazon com free shipping on qualifying offers essentials of economics eight

essentials of economics 8th edition schiller 9780077581572 - Jul 14 2023

web essentials of economics 8th edition by schiller bradley and a great selection of related books art and collectibles available now at abebooks com

essentials of economics 12th edition amazon com - Jan 28 2022

web mar 27 2020 find helpful customer reviews and review ratings for essentials of economics 8th edition at amazon com read honest and unbiased product reviews

essentials of economics eight edition bradley r schiller - Sep 23 2021

essentials of economics 8th edition solutions and answers - Feb 26 2022

web sep 8 2023 essentials of economics schiller 8th edition can be one of the options to accompany you past having supplementary time it will not waste your time undertake

essentials of economics by bradley schiller ecampus com - Aug 03 2022

web essentials of economics essentials of economics 12th edition isbn10 1264122101 isbn13 9781264122103 by bradley schiller and karen gebhardt 2023 purchase

iec 61010 1 ed 3 0 b 2010 ansi webstore - Jun 08 2022

web feb 14 2021 course overview the course covers iec 61010 1 electrical equipment for measurement control and laboratory use edition 3 2010 06 amd1 2016 12 plus

new iec 61010 1 edition 3 1 virtual training course - Dec 02 2021

consolidated version international standard norme internationale - Sep 23 2023

web preview abstract iec 61010 1 2010 specifies general safety requirements for the following types of electrical equipment and their accessories wherever they are intended to be

iec 61010 1 amd 1 ed 3 0 b 2016 amendment 1 safety - Jul 09 2022

web iec 61010 1 2010 a1 2016 specifies general safety requirements for the following types of electrical equipment and their accessories wherever they are intended to be used a

major changes to iec 61010 3rd edition amendment 1 - Feb 04 2022

an easy to use comparison on changes to ul iec 61010 1 - Jan 15 2023

web iec 61010 2 034 ed 2 0 b 2023 safety requirements for electrical equipment for measurement control and laboratory use part 2 034 particular 0 add to cart

iec 61010 1 edition 3 analog devices - Jul 21 2023

web requirements iec 61010 1 content of iec 61010 1 2010 edition 3 the standard specifies the safety requirements which are generally applicable to all equipment in the

risk management in 61010 1 third edition intertek - Oct 12 2022

web iec 61010 1 2010 specifies general safety requirements for the following types of electrical equipment and their accessories wherever they are intended to be used a electrical

edition 3 0 2019 02 international standard norme - Aug 10 2022

web 28 53 revision date 2019 07 19 in this 30 minute webinar presented live on 12th may 2020 marcin zurek shared his expertise on the major changes of amendment 1 to iec

standard iec 61010 1 - May 07 2022

iec 61010 1 third edition eurofins e e north america - Dec 14 2022

web iec 61010 1 2010 specifies general safety requirements for the following types of electrical equipment and their accessories wherever they are intended to be used a electrical

international standard norme internationale - Jun 20 2023

web mar 30 2021 technical articles iec 61010 1 edition 3 by david carr download pdf introduction international standard iec 61010 1 specifies safety requirements for a

iec 61010 1 safety requirements for electrical equipment for - Apr 06 2022

iec61010 3rd edition new international safety - Nov 13 2022

web safety requirements for electrical equipment for measurement control and laboratory use part 1 general requirements

iec 61010 1 2010 specifies general safety requirements

ul iec 61010 1 3rd to 3 1 amendment 1 edition - Feb 16 2023

web iec 61010 2 081 edition 3 0 2019 02 norme internationale group safety publication publication groupÉe de sÉcurité safety requirements for

iec 61010 1 edition 3 analog devices - Apr 18 2023

web aug 26 2010 the can csa and ul 61010 1 3rd edition standard was jointly published in may 2012 the changes brought into the third edition of 61010 1 were the results of a

redline version international standard iec - Mar 05 2022

iec 61010 1 2010 amd1 2016 csv iec webstore - Jan 03 2022

iec 61010 1 ed 3 1 b 2017 ansi webstore - Mar 17 2023

web jan 10 2017 full description iec 61010 1 2010 a1 2016 specifies general safety requirements for the following types of electrical equipment and their accessories

iec 61010 1 2010 iec webstore - Aug 22 2023

web iec 61010 1 edition 3 0 2010 06 international standard norme internationale safety requirements for electrical equipment for measurement

iec 61010 series master the challenge keep up - May 19 2023

web the ul iec 61010 1 3rd edition standard has recently undergone review and the result is edition 3 1 the comparison guide outlines the affected clauses discusses the changes

iec 61010 1 ed 3 1 b 2017 techstreet - Sep 11 2022

web international standard group safety publication iec 61010 2 101 edition 3 0 2018 10 redline version colour inside safety requirements for